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ABSTRACT

Two of three phases of a study were conducted to (1) assess the state of the art on the prediction of nursing clinical performance and (2) obtain current information from nursing education programs about prediction criteria in use by them. Phase one involved a review of the 1965 through 1975 literature pertaining to studies that focused on the attributes possessed by individuals before they enter a school of nursing, individuals proceeding through the nursing education process, and performance following graduation. During phase two a national survey of 150 nursing schools was done to collect data regarding predictive criteria. Some of the findings follow: (1) The most commonly used admission criteria in decreasing order are health data, high school rank, high school grade point average, applicant interviews, and prior college grade point average; (2) measures of cognitive attributes and achievement were the only predictive measures used by a substantial number of schools, and (3) teacher-made examinations were the most widely used measure of student progress in theory while clinical performance was evaluated by ratings of technical, interpersonal relations, problem solving, and assessment skills. (This report contains twenty-two tables summarizing the 398 studies reviewed during phase one. Each citation is cross-referenced with an annotated bibliography. The study's third phase, a follow-up of graduates, is currently underway.) (EM)

ED150444

# Prediction of Successful Nursing Performance

## PART I AND PART II

Patricia M. Schwirian, Ph.D.
Associate Professor
School of Nursing
The Ohio State University

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
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Division of Nursing project officer is Susan R. Gortner, Ph.D., Chief, Nursing Research Branch.

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# FOREWORD

The determination of effective clinical performance in nursing, particularly with regard to the ability of basic professional schools to select, retain, and graduate new professionals whose level of competence is considered safe and effective by initial employers, is of vital interest to the Division of Nursing. Such a determination serves a major objective of the Division to increase the quality of nursing practice through continually improved preparation of the beginning practitioner.

In 1967 the Division supported a significant research effort that summarized the literature through 1965 dealing with student admission, selection, and retention procedures; that effort has served as a major reference on the state of the art to investigators working in the field. The first major task of the present study was to conduct a comprehensive review of the 1965–1975 literature relevant to academic and clinical selection and prediction criteria in nursing that could serve as a reference for researchers and educators, and suggest areas for future research. Part I of this publication reports that review.

The second task was to develop, test, and administer a questionnaire to a representative sample of all basic professional schools of nursing to obtain information on (1) adequacy and use of known criteria for predicting successful nursing performance; (2) alternative criteria which the schools consider to be promising; (3) operational definitions of successful and effective nursing performance; and (4) identification of a cohort of 1975 graduating students considered to be highly effective performers. These students, and a randomly selected group of non-nominated graduates of the same school, were then followed up on the job early in 1976 to determine the relative effectiveness of school prediction criteria for later performance on the job. Part II of this publication reports the information provided by the 151 participating schools. A subsequent publication will report on the followup performance on the job—the third task undertaken.

This study is being carried out by the Ohio State University Research Foundation under the able direction of Dr. Patricia Schwirian. We hope the findings from the literature review and from the survey will assist others in approaching the difficult problem of prediction.

Jessie M. Scott

Jessie M. Scott
Assistant Surgeon General
Director
Division of Nursing

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My thanks must go, first of all, to those nursing school directors, assistant directors, and faculty members who provided the data which are reported in Part II and which serve as the foundation for the entire study. The input and assistance from the National League for Nursing and our consultants, Ms. Rose Hauer, Dr. Walter Johnson, Dr. Marlene Kramer, and Dr. Barbara Redman, have proven invaluable. I also wish to thank Jane Heffernan and Foye Shellhorn for their fine work as my research associates, and roses go to Chris Colflesh for her excellent "secretaryship." Finally, I note my deep appreciation to our contract officer, Dr. Susan R. Gortner, whose knowledgeable assistance, availability, and overall supportive attitude have truly smoothed the rocky road of research and contributed significantly to the quality of this study.

Patricia M. Schwirian
Columbus, Ohio
November 1976

# Prediction of Successful Nursing Performance

## Part I

# A REVIEW OF RESEARCH RELATED TO THE PREDICTION OF SUCCESSFUL NURSING PERFORMANCE, 1965–1975

PATRICIA M. SCHWIRIAN, PH.D.
Project Director
Associate Professor
School of Nursing
The Ohio State University

With the assistance of:

CHAROLD L. BAER, R.N., M.S.
SUSAN M. BASTA, R.N., M.S.
JEAN G. LARABEE, R.N., B.S.
Research Associates

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# Section I.

# INTRODUCTION TO THE LITERATURE REVIEW

## A. Background and Scope of the Study

Successful nursing performance by highly qualified practitioners is the *sine qua non* of a system that can deliver health care at a level that assures optimum health and well-being to all citizens. Since nurses constitute one of the largest single professional groups within the health care system and have the major responsibility for direct patient contact and care, it is essential for the profession of nursing to assure the preparation of its future practitioners for effective performance. Interest in the preparation and performance of men and women in the practice of nursing is particularly keen, because these individuals will help shape the future of nursing. In a continuing effort to enhance the quality of nursing practice through improved preparation of the beginning practitioner, the Division of Nursing of the U.S. Department of Health, Education, and Welfare determined the need for a national study designed to meet three major needs: "1) to reassess the state of the art on the prediction of nursing clinical performance; 2) to obtain current information from [nursing] educational programs about prediction criteria in use by them; and 3) to evaluate the relative merits of the school's predictive criteria through the review of the actual performance [of graduates of these schools] in the first job after graduation." [1] To these ends, a contract was issued by the Division of Nursing and subsequently awarded to The Ohio State University Research Foundation to conduct the study, Prediction of Successful Nursing Performance.

This research effort was initiated in June 1974 and was conducted in three general phases: Phase 1, which is the basis of this report, was a comprehensive, critical review of the 1965 through 1975 literature related to the identification and use of predictors of nursing success. Phase 2 was the development and administration of a questionnaire to a representative national sample of 10 percent of all State-accredited basic professional schools of nursing. These data provided information on: 1) the adequacy and use of known criteria for predicting successful performance in nursing school; 2) alternative predictive criteria considered promising by the schools; 3) the operational definitions of "a successful nurse" and of "effective nursing performance"; and 4) a cohort of students who graduated in spring 1975, who were considered by their school administrators and/or faculty to have the most potential for being successful in nursing practice. This information provided the basis for Part II of this publication. Phase 3 was designed to ascertain the relative success of the selected beginning practitioners in the work setting, via self-appraisals and appraisals from the immediate supervisors. This phase involved the development, administration, and analysis of data from two additional questionnaires. The responses contributed by the representatives of the sampled nursing schools were used as one of the bases for the development of this set of questionnaires, and the literature review provided the other major source of input in the development of this set of questionnaires. "Prediction of Successful Nursing Performance Project Report Part III: Evaluation and Prediction of the Performance of Recent Nursing Graduates" (currently unpublished), provides a description of the conduct and findings of this final phase of the study.

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[1] U.S. Department of Health, Education, and Welfare, Public Health Service, Division of Nursing. "SF-83 Supporting Statement: Prediction of Successful Nursing Performance" (Washington, D.C., 1974), p. 2.

## B. The Literature Review

While there is general agreement regarding the importance of the preparation of future nurses, there is little concensus among nursing practitioners and nursing educators regarding the methods to be used to insure such effectiveness of performance. In fact, there is sometimes disagreement as to what constitutes effective nursing performance. Any discussion of successful nursing performance and what it takes to prepare a "successful nurse" involves a number and diversity of variables that is almost endless. This complexity is well illustrated in the wide variety of research activities that is conducted and reported in the name of identifying, selecting, educating, and retaining individuals who will provide the best possible nursing care.

This part of the report is addressed to meeting the first objective specified by the Division of Nursing, i.e., to provide an organized review of the 1965–1975 literature related to the prediction of academic and clinical performance in nursing and to summarize the findings.

The initial step was to survey the available facilities and resources and then determine their potential utility for the project. The available resources fell into two general categories: "hard copy" reference sources and computer search facilities. The large volume of literature necessitated a systematic canvass of the following library tools for the "hard copy" sources: guides and indexes to the literature; abstracts; bibliographies; monographs; summaries of research; and bibliographical, institutional, and statistical directories or handbooks. As a result of this canvass, the following "hard copy" reference sources were identified as being the most useful for our purposes: *The Cumulative Index of Nursing Literature, Nursing Research, Current Contents, College Student Personnel Abstracts,* and *Dissertation Abstracts.*

The *Cumulative Index of Nursing Literature (CINL)* proved to be the most comprehensive guide to the nursing literature, as well as to other allied health publications and major medical journals. The *CINL,* which is indexed by nursing subject headings, merely lists the publications by title and author under these subject headings; therefore, those references considered appropriate by title had to be scanned to determine their relevancy.

The abstracting publications described the literature more fully than the indexes, but abstracts merely served as aids in deciding which works should be read in total from the original copies. *Psychological Abstracts,* which contains abstracts of the literature in the psychological and behavioral sciences, was found to be too difficult to work with and, consequently, was supplanted by the index and abstract listings in *Nursing Research.* The use of the *Nursing Research* abstracts, which cite psychological and sociological literature relevant to nursing, was found to be a more expedient route for searching the literature in these areas.

In addition to these "hard copy" references, *Current Contents* and *College Student Personnel Abstracts* were also used as sources of the most recent literature relevant to the study. Other sources, utilized to obtain papers presented at research meetings and reports of completed research that might not appear in print for some time, included programs and proceedings of professional organizations, such as the American Educational Research Association, the Research in Medical Education section of the American Association of Medical Colleges, and the American Sociological Association.

The second major source of references for the literature review was the computer search services provided by the Mechanized Information Center (MIC) of The Ohio State University Libraries. Many of our search descriptors were psycho-socio-behavioral in nature, and since a very broad range of sources concerning literature of that nature is searched by the MIC system, the output of pieces of literature was considerable. Through this source, many references relevant to the issues and problems involved in studying nursing performance were identified.

### Criteria for Inclusion of Reviewed Materials

The search would have been endless (and the monograph would have taken on unmanageable proportions) if limits were not imposed on the selection of materials to be reviewed. Consequently, the following criteria were imposed on the references to be selected for possible inclusion in the literature review:

(1) The publication dates had to be limited to 1965 through 1975. (This time span was established because Calvin Taylor's prior literature review in this area generally terminated with 1964 publication dates.[2])

(2) The literature had to relate to the comprehensive consideration of the identification and use of variables which may serve as predictors of nursing success. (There are many categories of research investigation which, although they do not deal with nurses or predictors of nursing success, per se, as their primary focus, may provide data and recommendations directly related to a comprehensive consideration of this subject; e.g., studies dealing with students in allied health professions; nonhealth students of college age; recruitment, selection and retention of minority groups; factors associated with academic success in general, etc.)

After applying these general, broad criteria to the literature obtained from the search, references were obtained and scanned for relevance. Copies of those found to be relevant were duplicated for the files. Subsequently, annotated bibliographic citations were compiled for those references and additional criteria were formulated to use in the selection of those studies to be abstracted and described in the monograph. These criteria were:

(1) The reported study had to focus primarily on the areas of selection, progression, prediction, and performance of undergraduate individuals who were nurses or were planning to become nurses.

(2) The reported study had to be published in the United States and/or the subjects of the report had to be practitioners or students in the United States. (While many studies conducted on populations other than those in the United States are very interesting, the major focus of this entire study was nursing preparation and practice in the United States.)

(3) The reported study had to be implemented and reported in a manner consistent with the spirit, intent, and suitable conduct of scientific inquiry.

In order to coordinate the activities of the project staff in processing the vast amount of materials through the stages of this phase of the literature review, it was necessary to devise a system for cataloging and filing the reprints, bibliographic cards, and abstracts of the studies. Therefore, each file was organized alphabetically by author. In addition, since it was necessary to retrieve materials by topic during the conduct of the study and preparation of the monograph, all abstracted items were organized topically and assigned numerical identifications. The results of the literature search produced 238 reported studies that were abstracted for the monograph (see Section II) and 398 annotated bibliographic citations (see Section III).

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[2] Calvin W. Taylor, et al., *Selection and Recruitment of Nurses and Nursing Students* (Salt Lake City: University of Utah Press, 1966).

# Section II.

# REVIEW OF RESEARCH RELATED TO THE PREDICTION OF SUCCESSFUL NURSING PERFORMANCE, 1965–1975

No methodological limits were placed on the selection of reported research, because we felt that in order to best serve the needs and interests of other researchers in the area, the overall guiding question should be, "How has a concept/variable/measure been used in this body of research, and what do we know about it?" Many of the reported studies were not experimental or even predictive, but simply descriptive, and the actual research questions and methodologies of the reported studies varied widely in both range and quality. The project staff had to decide which studies were to be abstracted for review in the monograph. One of the tools that aided the reviewers in their selection was an abstract form we devised for this purpose, which required information about the conceptualization, findings, limitations, conclusion/recommendations, and research design of the reported study.

## Rationale for Content Organization

Section II is a summary of most of those studies that were abstracted. A variety of organizational options to systematize the research literature was considered. The option finally selected as being the most systematically useful was based on the sequential stages involved in the process of becoming a nurse. Those stages are: 1) the desire to choose nursing as a profession and gain admission to a nursing school; 2) progression through the nursing school; and 3) completion of basic nursing education and entering practice.

Section II-A (Selection/Admission) deals with reported research focusing primarily on those attributes possessed by individuals *before* they enter a basic school of nursing.

Section II-B (Achievement/Progression) deals with reported research focusing primarily on individuals proceeding through the nursing education process.

Section II-C (Performance in Practice) deals with the prediction of the performance of these individuals following completion of their basic nursing education.

Within each of these three large divisions of Section II (A, B, and C), subtopics were determined according to the question areas that seemed to be the concerns of the researchers conducting the work.

The studies summarized in this section include an author's name followed by a number, e.g., Smith [290]. This is intended to provide the reader with an easy reference guide to each specific publication by an author. If the reader wishes to identify the specific title and source of the author's publication, he can refer to the annotated bibliography (Section III) where the number of each citation corresponds to the number cited in the summary table. The summary tables follow the text in each of the three subsections A, B, and C.

Abbreviations were used throughout the text and in the summary tables for many of the research instruments and measurements discussed in this report. A key to these abbreviations is provided in appendix I-B.

## A. Characteristics of Students Prior to or at Entry to Schools of Nursing

The first steps in the process of becoming a successful nurse are making the decision to become a nurse and gaining admission to an accredited school of nursing. Nursing educators, other health-related individuals, and guidance personnel are always interested in identifying those students who possess characteristics that not only make them likely to select the nursing profession, but also provide them with the most potential for succeeding in it. Therefore, much research has been conducted concerning the characteristics and attributes possessed by students before they enter nursing schools. Such studies were designed to explore "what students bring with them" when they enter nursing schools. The studies in this prenursing school category have dealt with four general questions:

1. What are the characteristics of those individuals who intend to enter nursing, and how do they compare with individuals who intend to enter other occupations?
2. What are the characteristics of the individuals who actually enter nursing schools, and how do they compare with individuals who are preparing for some other occupation?
3. What are the characteristics possessed by individuals at or before entry to nursing school that differentiate between those who drop out of school and those who complete their nursing education?
4. What are the characteristics possessed by students at or before entry to nursing school that are associated with varying levels of achievement in nursing school and shortly thereafter?

The term "characteristics" is used in the preceding questions to cover a broad range of variables that researchers have studied. These variables can be classified into three distinct groups: basic demographic data, cognitive performance indications, and attitudinal and personality attributes. Basic demographic data include such variables as age, race, sex, marital status, and socioeconomic status. Cognitive performance indications include measures of academic achievement in high school, ACT and SAT scores, scores on measures of intelligence and creativity, and college grades achieved prior to entry in nursing school. Attitudinal and personality attributes include measures of the individual's value system, social orientation, and personality.

### Characteristics of Students Intending to Enter Nursing

A number of rather interesting but unrelated reports were found relevant to the question of what characterizes those who intend to become nurses and what characteristics, if any, differentiate them from students who expressed a preference for some other job or profession. These studies are summarized in table 1. (See tables at end of Section II.) The methods, measures, and objectives of these studies varied so widely that no profile of the "typical" aspirant to the nursing profession emerges. Perhaps there is none.

### Characteristics of Students at Entry to Nursing School

These studies have been summarized in table 2. In general, the findings suggest that the beginning nursing students in these studies tended to be relatively "traditional" females from "traditional" backgrounds; their personalities and motivations centered around a somewhat passive service-to-others orientation. Beginning nursing students tended to have made their career decision to enter nursing at earlier ages than other students. This age-choice factor has been interpreted as both good and bad. Some investigators suggest that a career decision made at an early age contributes to a stronger degree of commitment to the chosen profession and, hence, a greater motivation to stay in the profession and perform well. An alternative interpretation is that early-age decisions are made on the basis of a totally unrealistic, romanticized image of the nurse which, when the student is confronted with grim reality, only serves to contribute to sad disenchantment and to leaving the profession.

The comparisons of students enrolled in the three different types of nursing programs showed some consistent differences. Associate degree programs had more students who were older, who were black, and who were men. The proximity to the students' homes, the shorter length of the programs, and the lower cost all figured significantly in the A.D. students' choice of school type. Measures of prior academic aptitude and achievement were lowest among beginning A.D. students and highest among baccalaureate students.

## Characteristics of Entering Nursing Students Associated with Program Attrition or Completion

These studies have been summarized in table 3. Most schools of nursing are faced with the dilemma of having more applicants than they can admit to their programs. Most of these applicants are "qualified" in terms of the basic minimum admission requirements, so the task of admissions officers and committees becomes one of developing and applying additional selection criteria which are likely to insure a minimization of student attrition and maximization of student success. Research findings related to predictors of attrition from nursing schools could prove useful to these people.

Three general categories of predictive variables were investigated in the summarized studies: demographic variables, indicators of achievement and intelligence, and measures of students' attitudes and personalities. While many predictor variables have been examined, a really accurate picture of "the most likely applicant to stay in nursing school" has not emerged from the research that has been reviewed here. The puzzle of attrition, therefore, remains unfortunately unsolved.

To date, it appears that the most reliable predictors of attrition are those which are known to be predictors of academic achievement in general. However, it is also known that academic failure or difficulty account for less than half the attrition from nursing schools. The findings related to the association between demographic characteristics are spotty, and (in this writer's opinion) not likely to produce any more clear results in the future. Moreover, given the increasing commitment and concern regarding complete equality of access to the professions—including nursing—the likelihood of using any demographic variables as bases for selection into a school of nursing is increasingly remote. Therefore, their predictive validity becomes a moot point, except from a purely research perspective.

The aim was to review the literature and produce a monograph designed to meet the needs of a wide variety of researchers and nursing educators interested in the prediction of success in nursing. The monograph, designed to be of maximum utility to other researchers, is comprised of four major sections: Section I—Introduction to the Literature Review; Section II—Summary of Studies Reviewed; Section III—Annotated Bibliography; Section IV—Author Index.

## Literature Review Methodology

It was anticipated that the actual volume of material to be reviewed would be extensive as well as diverse; therefore, a significant portion of our initial efforts was expended in establishing an efficient, effective information management and retrieval system. A variety of references was used in developing effective literature search strategies and procedures for managing a literature search of this magnitude. These references appear in appendix I-A. Based on this review, and our experiences in previous literature searches, an organizational plan for the conduct of the search was devised.

The study of noncognitive attributes of prospective nurses remains the most intriguing area of investigation. The research to date indicates that none of the "basic" standardized tools that measure personality and attitudinal characteristics have predicted attrition or persistence with any consistency. However, several studies which have used some of the most "standard" measures were limited to one site and one or two student cohorts. Nonetheless, the methodologies were sound and the replication of such studies may produce useful predictive information. It also seems to be time to investigate the predictive value of some variables and some data-gathering tools that have not been widely used as predictors before now. One area which may well have promise is that of the "image" of nursing which is actually held by aspirants to the profession—How "realistic" is it? How "good" is it? Is the "romantic" image formed at an early age more likely to produce "commitment" or "disenchantment"? A second possible predictor variable of value could be student self-concept. There is a wealth of conceptual and research literature on which investigators could base their own study of the relationship between various elements of self-concept and the likelihood of completing nursing school.

It is evident from the preceding review that the focus has been almost entirely on student characteristics as the predictors of attrition. I suggest that careful study of the *systems characteristics* of the nursing schools the students enter and a delineation of the interactions between student variables could contribute significantly to the solution of the attrition puzzle.

### Characteristics of Entering Nursing Students Associated With Achievement in School and State Board Examination Performance

These studies are summarized in tables 4 and 5, respectively. These findings are probably the most internally consistent in the whole area of the prediction of successful nursing performance. Achievement in school has generally been operationalized as course grades and grade point average. It is clear that the best predictors of these achievement measures were measures of the students' prior academic achievement and aptitude: e.g., high school GPA and rank, ACT scores, SAT scores, prenursing GPA, etc. Another proven predictor of subsequent academic achievement in nursing schools—particularly in terms of scores obtained on the NLN Achievement Tests—appeared to be the NLN Pre-Nursing and Guidance Examination. While a number of personality and attitude measures were examined for their value as predictors of academic achievement, they typically contributed little to the predictive value of measures of prior achievement. State Board Examination performance was, likewise, best predicted by measures of prior academic aptitude and achievement.

## B. Characteristics of Students Enrolled in Schools of Nursing

The studies that were reviewed and summarized in the preceding subsection (tables 1-5) were concerned with characteristics of prospective and entering nursing students. The content of this subsection is a summary of the 1965-1975 research concerned with students while they were enrolled in nursing schools. As in the preceding section, the range of variables was broad and the methodologies were quite varied; however, the studies appeared to have four general goals.

1. The *description* of behaviors and attributes of nursing students and new methods whereby these attributes could be measured.
2. The *comparison* of characteristics of nursing students with nonnursing students and comparison of subgroups of nursing students with each other.
3. The *prediction* of in-school and post-school performance.
4. The identification of *changes* which occurred in nursing student behaviors, performance, and/or attitudes as they encountered the experiences included in their nursing education.

### Descriptive Studies

This was the smallest group of studies using data from students enrolled in nursing schools. The first subset of studies, which appears in table 6, is made up of those that simply described some attribute of a group of nursing students. The major concerns seemed to be the students' perceptions of the nursing profession and the nature of the concerns and stresses experienced by nursing students. The picture of nursing students that emerged was generally that of rather traditional college females anticipating careers in a traditional female occupation.

The second set of descriptive studies (table 7) relating to the performance of nursing students while they were enrolled in school is that group which described tools and/or techniques for measuring or estimating nursing students' abilities and performance. The first three studies in table 7 focused on nursing instructors and their perceptiveness and ability to estimate students' aptitude. The last four studies were actually reports of the development of various performance measurement tools. The valid assessment of student performance (particularly in the clinical settings) appears to remain a persistent problem for nurse educators, and it appears that the only schools that have been able to attack the problem with the necessary creativity and skill have been those whose basic resources were substantially enhanced through large Federal curriculum development grants. Unfortunately, the literature of the 1965-1975 period does not tell us the extent to which these few really innovative measurement approaches were "exported," adapted, and adopted by other schools of nursing. Among the findings reported in the second part of this report (Admission Practices, Evaluation Strategies, and Performance Prediction Among Schools of Nursing) is the fact that schools of nursing still rely most heavily for the evaluation of student achievement and progress on tests generated by their own teaching faculty members. This would suggest, therefore, that widespread dissemination and use of the reported "new" performance measures has not occurred.

## Comparison Studies

A substantial number of studies were reported that compared nursing students to nonnursing students or compared subsets of nursing students with each other. While the long-range goals of these studies were not always made clear, if nursing educators could assemble a cumulative body of information (containing relatively consistent findings) about what nursing students are *"really like,"* they would be in a better position to design and provide more effective personal and career counseling, as well as define and implement learning opportunities of maximum effectiveness. Unfortunately, no such clear picture of nursing students emerged from the studies that were reviewed. However, while the composite of these studies is certainly not empirically conclusive, it could be considered substantively suggestive. Several of the better studies could well serve as the basis for replicative research projects for master's degree or doctoral candidates. The comparison studies have been presented in three summary groups: those that compared attributes of nursing students with attributes of nonnursing students (table 8); those studies in which students enrolled in different types of nursing schools were compared (table 9); and those that compared characteristics of men and women students in nursing schools (table 10).

## Prediction Studies

Many studies, which were reported using data from students enrolled in schools of nursing, focused on the prediction of the students' performance either while in school or after graduation. Three major performance categories emerged in the literature review: performance while still enrolled in school (these focused primarily on academic achievement); post-graduation performance on State Board Test Pool Examinations; and post-graduation performance as a practicing nurse.

The studies on *prediction of performance in nursing school* most generally operationalized performance in terms of standard measures of academic achievement, i.e., course grades and GPA. These studies are summarized in table 11, and show that, in general, the best predictors of academic achievement as measured by theory grades and GPA are the standard indicators of prior academic achievement. The prediction of clinical course grades, however, was less often addressed, and even when it was, the findings did not aid in the identification of any reliable predictors of performance. It may also be observed that while a variety of interesting measures of noncognitive attributes were explored for their predictive value, they contributed little to the variance that was already accounted for by prior academic achievement and aptitude. One may recall that this summary of the prediction of achievement in nursing school is essentially the same as the one based on studies of the potentially predictive attributes possessed by students at or before entry into schools of nursing.

A few other in-school performance variables were the objects of predictive studies, such as successful adjustment or preference for specialties within nursing practice, but each of these was the subject of only a single investigation and not subject to useful generalizations or recommendations.

*Prediction of State Board Examination performance* has been the subject of a number of studies which have been summarized in table 12. The studies, which have included NLN Achievement Test scores in their predictive batteries, clearly show that performance on these tests is the best predictor of SBTPE performance. Theory grades and GPA were generally found useful as predictors, but grades in students' clinical courses were not. Therefore, one could logically assume from these findings and the findings of the preceding summary (table 11) that performance in clinical nursing courses has not been predicted on the basis of prior academic achievement, nor has it predicted subsequent academic achievement. One of the more interesting studies in the set examined "systems" characteristics as predictors (in contrast to the individual student characteristics which were usually the subjects of investigation). However, the only useful SBTPE performance predictor of a long list was the level of academic preparation of the nursing instructors.

While it is acknowledged that post-graduation SBTPE performance is a valid focus for concern, since one must "qualify" via these examinations in order to practice nursing, the performance that matters most to the nursing profession and its clients is the graduate's performance on the job. Studies which focused on the *prediction of job performance after nursing school* have been summarized in table 13. While practice performance was variously measured, the situation regarding the predictive utility of clinical course grades in nursing schools appears to have been reversed from that described in the findings regarding academic performance in school (table 11) and SBTPE performance (table 12). That is, nursing practice grades appeared to be the most useful predictors, even though they were seemingly unrelated to the other aspects of performance that are used to describe how much a nurse knows about nursing.

This rather disturbing observation, however, should not be interpreted to mean that excellence in academic areas and thorough knowledge of nursing theory should be considered as simply irrelevant to the selection of the best possible nurses. On the contrary, a broad, sound knowledge base in all subjects relevant to health and illness is the *sine qua non* for really good clinical performance. But it is eminently clear that there is "something else" that differentiates levels of nursing care—probably *many* "something else's." A number of psychosocial elements of nurse behavior and a few "systems" elements have been suggested in the research reviewed here; however, the works have been somewhat mutually isolated and do not appear to suggest a clear direction.

## Change Studies

Effecting change is the major business of schools of nursing—the changes that must occur in men and women from the time they enter school, wanting to become nurses, until the time they graduate, capable of actually being nurses. It is very important to know the nature of the "change outcomes" of the activities, experiences, and interactions that are part of the process of being educated to be a nurse.

The reviewed studies that dealt with changes occurring in students while they were enrolled in nursing school were placed into two categories: those that reported changes in student behaviors or attitudes associated with some particular educational experience (e.g., an innovative instructional technique or some particular course content); and studies in which the intervening experience was simply time spent in nursing school. The methodologies were mixed; some were longitudinal studies using the same cohort of nursing students at Time 1 and Time 2, and others employed a cross-sectional design. The strategy may be identified by examining the following summary tables.

The change studies reporting *outcomes of specific learning experiences* are summarized in table 14. Several of these report the outcomes of action research conducted within the setting of the implementation of the experimental nursing curriculum at the University of California, San Francisco; this proved to be one of the most fertile sites for the work of a variety of student-performance and nursing-performance investigators during the 1960's. The actual studies which have been summarized in table 14 examined a wide variety of student performance outcomes; e.g., self-actualization, stress, attitudes toward mental illness, etc. Since there were no common themes, no general picture emerges from these studies—nor should one expect it. The utility of these studies is defined in terms of the change outcomes which nurse educators judge as desirable in their setting.

Studies that were concerned with changes in student attributes associated with *progression through nursing school* between 1965 and 1975 were relatively numerous. These have been summarized in table 15. Almost half of the studies included in this summary investigated differences in student personalities and values at different points in time—usually at the beginning and end of nursing school. A variety of measures was employed, making cross-comparison difficult, but the findings suggest that progress through nursing school was associated with the study sample members becoming somewhat less of the "traditional" female they were when they entered nursing school; that is, more change-oriented, having lower nurturance needs, preferring more autonomy, etc. The studies that examined self-concept differences between new and experienced nursing students were generally inconclusive.

The second major area of "change during nursing school" studies was that of students' images of nursing and their professional orientation. These findings suggest a transition from a relatively idealistic, traditional image of the profession to one which is considerably more "professional." One of the most outstanding efforts at documenting the personal and professional transition of nursing students throughout their academic career has not been summarized in this review; the report is simply too involved to be included in such a cursory table-type treatment. This study is the longitudinal participant-observation research study conducted by Olesen and Whittaker and reported in *The Silent Dialogue*. It should be required reading for all students of professional socialization in nursing.

## C. Studies Related to the Performance of Nurses in Practice

The last major area for research according to the classification system used in this review is that which contains performance-related studies of nurses who had successfully completed nursing school, passed State Board Examinations and were in practice. These investigations were of three major types:

(1) *Descriptions* of various nurse attributes and their measurement.

(2) *Comparisons* of performance and other attributes of certain subsets of practicing nurses.

(3) *Prediction* studies of professional performance and attitudes.

A number of studies appear in the annotated bibliography (Section III) which have not been summarized in the following figures. These were reports which, while they could be of value to a few performance researchers, seemed to be relatively peripheral to the particular focus of this research effort.

### Descriptive Studies

The descriptive studies of nurses in practice have been placed in general categories. The first is a group of studies, the primary goal of which was to describe the development and testing of performance measures; these have been summarized in table 16. It is evident from the summary that a great deal of time and effort have been invested in the development of measures of nurse performance which are practical, valid, reliable, and useful in a variety of settings and actually differentiate good nurses from not-so-good nurses.

The approaches that have been used ranged in complexity and sophistication from assembling some generally-agreed-upon behaviors for a checklist to very elaborate strategies for identifying relevant behaviors and validating the utility of the instruments in practice settings. Some investigators based their work in behavioral theory; others started with existing measures and worked from there. Any investigator anticipating work on a performance-based study would do well to examine these measures and their development carefully.

Attitudes toward the nursing profession, the second group of descriptive studies, have been summarized in table 17. While the specific objectives of these studies varied considerably, the dominant theme appeared to be the delineation of sources of nurses' satisfactions and dissatisfactions with the practice of nursing. The elements that appeared to be of most concern were: the autonomy of nurses (or lack thereof), the nurse's role in patients' rights, role conflict in terms of a "professional" role orientation—as a "bureaucratic" role orientation—and the esteem of the profession.

## Comparison Studies

Comparison studies of practicing nurses have been summarized in tables 18, 19, and 20. These studies show a "mix" of various institutional and organizational variables, nurse background characteristics and experiences, work preferences and satisfactions of practicing nurses. The few studies comparing graduates of different types of nursing programs demonstrated no really notable differences. Once again, the theme of nurse autonomy seems to emerge. That is, the combination of a number of the studies suggests that nurses function better and with more satisfaction in settings in which they work more autonomously and with less bureaucratic interference between them and their patients.

## Prediction Studies

The prediction studies of practicing nurses focused on two areas: on-the-job performance and occupational attitudes. These studies are summarized in tables 21 and 22, respectively. The various predictors of performance included stress, nurses' personalities, role conception and deprivation, prior academic achievement and organization of nursing care delivery subsystems within which nurses worked. The category "Occupational Attitudes" included investigations of predictors of job satisfactions and professional plans. Since the objectives and measures used in these studies were extremely diverse, it is impossible to arrive at any generalizations that would be either valid or particularly useful. However, the "flavor" of the findings suggest that better nurse performance seemed to be associated with what might be called a "mature personality" structure, i.e., lower susceptibility to stress, openness to input from others, flexibility, relatively self-actualized, self-assured, etc. Interestingly, while two studies demonstrated a positive association between performance and intelligence indicators, one other found prior indicators of academic achievement to have no predictive validity for performance as evaluated by the sampled nurses themselves and their supervisors.

### Table 1.—Characteristics of students intending to enter nursing: descriptions and comparisons

| Year | Investigators | Attributes investigated | Measures used | Groups studied (N) | Relationships or findings |
|---|---|---|---|---|---|
| 1967 | Woodruff [394] | Socioeconomic status | Study-specific questionnaire | Senior high school girls interested in nursing as compared to senior high school girls interested in college as compared to senior high school girls interested in a technical education as compared to senior high school girls interested in no post-high school education (1,301) | No significant differences |
| | | Intelligence | Vocabulary Test-GT based on the I.E.R. Intelligence Scale CAVD | | Results not reported |
| | | Reasons for selecting type of nursing educational program | Study-specific questionnaire | | Cost was an important factor |
| 1968 | Bailey [24] | High school course preference | Career Choice Questionnaire | Senior nursing students (25) as compared with senior occupational therapy students (51) as compared with physical therapy students (29) as compared with medical technology students (29) as compared with education students (51) | Nursing students preferred biology and foreign languages more than did the occupational therapy students. |
| | | Extracurricular activities | | | No significant differences |
| | | Presence of past illness or accidents among relatives or close friends | | | 76% of the nursing students reported this experience. |
| | | Father's occupation | | | Nursing students' fathers held managerial or executive positions more often than the fathers of occupational therapy students. |
| | | Number of sisters | | | Twice as many nursing students as occupational therapy students have at least one sister. |

Table 1.—Characteristics of students intending to enter nursing: descriptions and comparisons—Continued

| Year | Investigators | Attributes investigated | Measures used | Groups studied (N) | Relationships or findings |
|---|---|---|---|---|---|
| | | Deciding on a career | | | Over 50% of the nursing students had selected nursing as their first career choice and probably before the age of 12. The family seemed to have the most influence on their decision to enter nursing. Also, work experience was a factor in the decision of those nursing students who decided on a career in nursing as their second choice. |
| 1968 | Vaz [375] | Attitudes towards nursing as a career | Study-specific questionnaire | Senior high school males (506) | Nursing was consistently ranked lowest on the masculinity scale when it was compared with six other careers. |
| 1969 | Pavalko [291] | Intelligence | Hennon-Nelson Test of Mental Ability | High school senior girls who intended to enter nursing and did so (194) as compared to high school senior girls who intended to enter nursing and did not (183) as compared to high school senior girls who had not planned to enter nursing but did (17) | Nursing recruits are above average on intelligence. |
| | | Socioeconomic status | | | Nursing recruits came from families of above average socioeconomic status. |
| | | Size of community | Study-specific questionnaire | | No relationship. |
| 1969 | Roraback [315] | Value orientations | | High school seniors (503) | Those students planning to enter nursing had extrinsic work-oriented values, while the other students had intrinsic, personally oriented values. Socioeconomic values were of the least importance to both groups, while both groups valued highly service to others. |

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| 1973 | Richek and Nichols [311] | Cognitive characteristics | SAT-Verbal, Math. and total scores<br>High school GPA | Prenursing majors (23) as compared with females planning to enter other fields of study (308) | Prenursing students had the lowest ratings concerning high school GPA and SAT math scores. They also had the second lowest ratings concerning high school standing and total SAT scores. |
|  |  | Personality characteristics | Brown Self-Report Inventory |  | Prospective nursing students scored lower on scales which provide measures of a "helping orientation." They also had the least positive perceptions of both parents and authority figures outside the family. They had the greatest doubt that they would complete college. |
|  |  | Father's educational level | Study-specific questionnaire |  | Prospective nursing students' fathers had less education. |
|  |  | Socioeconomic status | Study-specific questionnaire |  | Prospective nurses come from families with lower socioeconomic status. |
|  |  | Age<br>Marital status<br>Parents' age | Study-specific questionnaire |  | No significant differences. |
| 1974 | American Council on Education [10] | Academic performance | College grades | College freshmen aspiring to be nurses (28,430) as compared with college freshmen aspiring to other occupations (1,311,896) | Academic performance was average for the nursing aspirants. It was equal to that of aspiring laboratory technicians and dentists, but lower than that of aspiring doctors, speech therapists, occupational therapists, or physical therapists. |
|  |  | Sex | Study-specific questionnaire |  | Nursing aspirants were 94% female. |
|  |  | Race | Study-specific questionnaire |  | Most nursing aspirants were white. |
|  |  | Religion | Study-specific questionnaire |  | Most nursing aspirants were Protestant. |
|  |  | Age | Study-specific questionnaire |  | Nursing aspirants were older than average. |
|  |  | Socioeconomic status | Study-specific questionnaire |  | Nursing aspirants came from middle and lower socioeconomic levels—average income, $9,301. |

Table 1.—Characteristics of students intending to enter nursing: descriptions and comparisons—Continued

| Year | Investigators | Attributes investigated | Measures used | Groups studied (N) | Relationships or findings |
|---|---|---|---|---|---|
| | | Type of program enrollment | Study-specific questionnaire | | Nursing aspirants were more likely to enroll in 2-year colleges.<br>Nursing aspirants were more likely to enroll in medium-sized public institutions of low selectivity in the Midwest. |
| | | Personal characteristics | Study-specific questionnaire | | Nursing aspirants were more likely to rate themselves high on cheerfulness and understanding of others. |
| | | Work goals | Study-specific questionnaire | | Nursing aspirants valued highly having administrative responsibility for the work of others and gave low priority to making a theoretical contribution to science and becoming a community leader. |
| | | Reasons for choosing career | Study-specific questionnaire | | Nursing aspirants cited the following: 1) leadership opportunities; 2) availability of jobs; 3) want to work with people; 4) be helpful to others; 5) opportunity for progress; 6) want to make a contribution to society. |

Table 2.—Characteristics of students at entry to nursing school: descriptions and comparisons

| Year | Investigators | Attributes investigated | Measures used | Groups studied (N) | Relationships or findings |
|---|---|---|---|---|---|
| 1965 | Bernstein, et al. [42] | Personality characteristics | TAT | Sophomore nursing students in a baccalaureate program as compared to normative data for women as comprised by ERON (67) | Nursing students were more disturbed in their interpersonal relationship, gave more themes of loneliness, produced more themes of hostility and aggression, showed relatively strong achievement drives and little occupational concerns, and tended to make the characters in the theme real. |
| 1965 | Baker [26] | Manifest personality needs and social attitudes | EPPS<br>Study-specific scales concerning powerlessness, anomie, normlessness, status, aspiration | Baccalaureate freshmen nursing students at St. John's College (34) | Students with strong manifest needs for achievement affiliation, exhibition and autonomy may feel impotent concerning world events, apathetic to society demands, tolerant of the violation of social norms, interested in raising social status and severed fom community bonds. |
| 1966 | Litherland [207] | Academic achievement | High school GPA | Diploma and baccalaureate nursing students in Iowa (3,358) | Baccalaureate students had significantly higher high school GPA's and ITED scores than did the diploma students, and the diploma students seemed to be a very homogenous group. |
| 1967 | Pankratz and Pankratz [288] | Reasons for entering nursing | A study-specific instrument based on Cleveland's 10 categories of conscious motivation | Diploma nursing students (166) as compared to registered nurses (144) | Working with people, God's will, and early ambition constituted the highest percentage of first choice reasons for entering nursing for both groups of students. |
| | | Age at which decision to enter nursing was made | Study-specific questionnaire | | Both groups considered nursing at an early age, but the final decision was usually made during the junior or senior years in high school. |

Table 2.—Characteristics of students at entry to nursing school: descriptions and comparisons—Continued

| Year | Investigators | Attributes investigated | Measures used | Groups studied (N) | Relationships or findings |
|---|---|---|---|---|---|
| 1967 | Aldag and Christensen [7] | Personality characteristics | MMPI short form | Male nursing students from diploma and A.D. programs (29) as compared to female A.D. nursing students (29) as compared to female A.D. students in programs other than nursing (29) as compared to male A.D. students in programs other than nursing (29) | Nursing students are more responsible, generous, dependent, passive, and more feminine than were the other types of students. |
| 1968 | Levine [201] | Social class | Study-specific questionnaire | Women in 4 professional graduate schools at Yale—nursing, teaching, law, and medicine (N not specified) | Women in law and medicine came from higher social class backgrounds than did women in nursing and teaching. |
| | | Mother's educational level | Study-specific questionnaire | | The mothers of women in law and medicine had higher levels of educational attainment than did the mothers of women in nursing and teaching. |
| | | Employment plans | A Work Expectation Scale | | Women in law and medicine planned to remain in the labor force at all times, while women in nursing and teaching planned to withdraw from the labor force when they have small children. |
| 1968 | Gortner [131, 132] | Value preference | AVL | Regstered nurse students in a baccalaureate program (231) as compared to basic senior nursing students in the same program (244) | RN students scored significantly higher on the theoretical value scale than did the basic B.S. senior students. |
| | | Personality characteristics | OPI | | RN students exercised greater limits on impulsivity and emotional expression than did basic students. |
| | | Motivational factors | Study-specific Likert scale | | RN students emphasized professional interests more than did basic senior students as important determinants and goals of higher education. |

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| Reasons for choosing nursing as a career | Study-specific questionnaire | No significant differences. The reasons given by both groups were related to altruism, personal satisfaction, security, and femininity. |
| Sources of satisfaction | Study-specific questionnaire | No significant differences. |
| Susceptibility to stress | Study-specific questionnaire | Basic senior students were more susceptible to stress than were the RN students. |
| Socioeconomic status | Study-specific questionnaire | More RN students came from upper lower and lower middle class origins than did the basic students. |
| Father's occupation | Study-specific questionnaire | More RN students had fathers who were in lower occupational classifications than were the fathers of other students. |
| Position in family | Study-specific questionnaire | More basic students were the oldest children in the family than were RN students. |
| Size of high school graduating class | Study-specific questionnaire | More basic students graduated in large high school classes than did RN students. |
| High school course of study | Study-specific questionnaire | More basic students took college preparatory courses in high school than did RN students. |
| Plans for further education | Study-specific questionnaire | More RN students planned to continue their formal education than did basic students. |
| Age | Study-specific questionnaire | RN students were older than the basic students. |
| Marital status | Study-specific questionnaire | More RN students were married than were basic students. |
| Work experience prior to entering college | Study-specific questionnaire | More RN students were employed, and usually in health related fields, than were basic students. |
| Academic ability | A 20-item word list derived from Thorndike's I.E.R. intelligence scale, the CAVD | RN students demonstrated significantly higher verbal ability scores than did the basic students. |

Table 2.—Characteristics of students at entry to nursing school: descriptions and comparisons—Continued

| Year | Investigators | Attributes investigated | Measures used | Groups studied (N) | Relationships or findings |
|---|---|---|---|---|---|
| 1968 | Smith [341] | Personality factors | EPPS<br>AVL | Freshmen nursing students in 10 Baltimore diploma schools of nursing (546) | Seven factors emerged from the 21 variables: tender hearted, strong willed, religious-mystic, humble-religious, dependent-achiever, intellectual-achiever, abasive-dependent. |
| 1968 | Casella [69] | Hierarchy of human needs | EPPS | Upper freshmen-lower sophomore females planning to enter nursing (97) as compared with upper freshmen-lower sophomore females in a liberal arts program who planned to enter other professions (125) | No significant differences. |
| 1969 | Pavalko [291] | Intelligence | Scores on the Hennon-Nelson Test of Mental Ability | High school senior girls who planned to become nurses and did so as compared to those high school senior girls who planned to become nurses and did not do so as compared to those high school senior girls who did not plan to become nurses but did so (194) | Of the high school senior girls who planned to enter nursing, those who actually did enroll were of higher intelligence than those who did not enroll. |
| 1970 | Johnson and Leonard [162] | Intelligence | College Qualification Tests, Form B | Freshmen female B.S. nursing students enrolled in Nursing 114 at the University of Wisconsin as compared to other University of Wisconsin females (77) | Nursing students scored in the Average Range of scholastic aptitude when compared to other University females. |
| | | Personality characteristics | 16 PF, Form A<br>SVIB, Form W | | Test scores indicated that the nursing students were more intelligent, assertive, and willing to experiment than other University women. |
| 1970 | Elton and Rose [111] | Age at which decision to enter nursing was made | Student Profile Section of the ACT | Freshmen prenursing women who were both ineligible and disinterested (47) as compared to women who were eligible but disinterested (9) as compared to women who were ineligible but interested (27) as compared to women who were both interested and eligible (19) | Women who decided on a nursing career while they were still in high school tended to be disinterested and ineligible after 1 year of prenursing. |

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| | | Academic ability | ACT scores | | Poor risk nursing candidates are the least prepared in academic subjects. |
| | | Personality factors | Five factors from the OPI, Form C | | No significant differences. |
| 1970 | Taylor [358] | Individuals influencing career decision | Study-specific questionnaire | Freshmen nursing students in six Atlanta nursing schools (384) | Nurses were the greatest influencing individuals. |
| | | Experiences influencing career decisions | Study-specific questionnaire | | Work experiences in a clinical setting was the most important influence for 55% of the students. |
| | | Other factors influencing career decision | Study-specific questionnaire | | The most important factor for 28% of the students was the desire to help others. |
| | | Age at which decision to enter nursing was made | Study-specific questionnaire | | 42% of the students had decided to enter nursing before they entered high school and 50% made their decision during high school. |
| 1970 | Adams and Klein [3] | Hierarchy of human needs | EPPS | Diploma nursing students (50) as compared to the normative data for college women and high school girls | Nursing students scored significantly different than the two norms on autonomy and nurturance. The nursing students scored low on autonomy and high on nurturance. |
| | | | IPAT—16 PF | Compared the nursing students with the norms for college freshmen women. | There were significant t-values for 9 of the 16 factors. |
| 1971 | Wren [395] | Age | Study-specific questionnaire | A.D. nursing students (224) as compared to diploma nursing students (322) as compared to baccalaureate nursing students (58) | The A.D. nursing students were older than students in the other two types of programs. |
| | | Marital status | Study-specific questionnaire | | More A.D. students were married than were students in the other two types of programs. |
| | | Religion | Study-specific questionnare | | No significance differences. |
| | | Father's occupation | Study-specific questionnare | | No significant differences. |
| | | Mother's occupation | Study-specific questionnare | | No significant differences. |
| | | Size of hometown | Study-specific questionnare | | No significant differences. |

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**Table 2.—Characteristics of students at entry to nursing school: descriptions and comparisons—Continued**

| Year | Investigators | Attributes investigated | Measures used | Groups studied (N) | Relationships or findings |
|---|---|---|---|---|---|
| | | Distance from hometown to nursing school attended | Study-specific questionnare | | Baccalaureate students traveled longer distances from their hometowns to attend nursing school. |
| | | Financial support | Study-specfic questionnaire | | No significant differences. |
| | | Father's educational level | Study-specfic questionnaire | | A.D. students had fathers who had lower levels of education than did the fathers of students in the other types of programs. |
| | | Mother's educational level | Study-specfic questionnaire | | A.D. students had mothers who had lower levels of education than did the mothers of the students in the other two types of programs. |
| | | Rank in high school graduating class | Study-specfic questionnaire | | Baccalaureate students ranked higher in their high school graduating class than did students in the other two types of programs. |
| | | Academic achievement | SAT scores | | Baccalaureate students had higher SAT scores than did the students in the other two types of programs. |
| | | Preferences for area of nursing to work in after graduation | Study-specific questionnaire | | No significant differences, but baccalaureate students were more often undecided than were students from other types of programs. |
| | | Plans for continuing education after graduation | Study-specific questionnaire | | More diploma students had plans for further education than did students in the other types of programs. |
| | | Individuals influencing choice of nursing school | Study-specific questionnaire | | No significant differences |
| | | Post-high school education before entering nursing school | Study-specific questionnaire | | More baccalaureate students had post-high school education prior to entering nursing school than did students in the other types of programs. |

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| | | Prior work experience in a health care field | Study-specific questionnaire | | More A.D. students had prior work experience in a health field than did students in the other types of programs. |
| | | Motivation for choosing nursing as a career | Study-specific questionnaire | | No significant differences. |
| | | Reasons for choosing nursing school | Study-specific questionnaire | | No significant differences. |
| 1972 | Knopf [173] | Age | Career-Pattern Study questionnaire | Nursing students enrolled in associate degree programs (13,852) as compared with nursing students enrolled in diploma programs (15,468) as compared with nursing students enrolled in baccalaureate program (13,410) | Associate degree students had a wider age range while most diploma and baccalaureate students were under 20 years of age. |
| | | Marital status | Career-Pattern Study questionnaire | | Many of the associate degree students were married when they entered the programs, and most of those who were married were also mothers. Most baccalaureate and diploma students were single. |
| | | Sex | Career-Pattern Study questionnaire | | Men entered associate degree programs more than diploma or baccalaureate programs. |
| | | Race | Career-Pattern Study questionnaire | | Blacks entered associate degree programs more than the other two types of programs. |
| | | Frequency of entry into nursing program | Career-Pattern Study questionnaire | | More associate degree students were attending school for the second time as compared to students in the other two types of programs. |
| | | Parents' educational level | Career-Pattern Study questionnaire | | Parents of baccalaureate students had higher levels of educational attainment than parents of students in the other two types of programs. |
| | | Parents' social index | Career-Pattern Study questionnaire | | Parents of baccaluareate students had higher social index classification than parents of students in the other two types of programs. |

Table 2.—Characteristics of students at entry to nursing school: descriptions and comparisons—Continued

| Year | Investigators | Attributes investigated | Measures used | Groups studied (N) | Relationships or findings |
|---|---|---|---|---|---|
| | | Father's occupation | Career-Pattern Study questionnaire | | More fathers of baccalaureate students had white collar and professional jobs than the fathers of students in the other two types of programs. |
| | | Mother's occupation | Career-Pattern Study questionnaire | | More mothers of baccalaureate students were registered nurses than were mothers of students in the other two types of programs.. |
| | | Family income | Career-Pattern Study questionnaire | | Families of baccalaureate students had higher incomes than did families of students in the other two types of programs. |
| | | Geographic location of nursing school attended | Career-Pattern Study questionnaire | | Almost all nursing students attend nursing school in the same State in which they had attended high school. |
| | | Religion | Career-Pattern Study questionnaire | | Diploma programs attracted more Roman Catholics than did the other two types of programs. |
| | | Family size | Career-Pattern Study questionnaire | | All nursing students came most often from families with two or more children, in which they were usually the oldest daughters. |
| | | Motivation for entering nursing | Career-Pattern Study questionnaire | | The three most frequent responses regardless of program type were: to be of help to others, to have a good profession, and to gain personal satisfaction. |
| | | Reasons for selecting type of nursing program | Career-Pattern Study questionnaire | | Associate degree students usually chose a school because of its geographic location (close to their home) and the length of its program (short). Diploma students chose a school based on the quality of its program, and baccalaureate students selected programs for both the collegiate and nursing programs. |

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| | | Expected work position after graduation | Career-Pattern Study questionnaire | | Most of all types of students expected to be staff nurses in hospitals 1 year after graduation, but to have different jobs 15 years after graduation. |
| | | Plans for further education | Career-Pattern Study questionnaire | | More A.D. and diploma nursing students planned to continue their education after graduation than did baccalaureate students. |
| | | Employment during nursing school | Career-Pattern Study questionnaire | | Almost all students, regardless of type of program, had been employed during nursing school and usually in the hospital setting. |
| 1972 | Montag [243] | Age | Study-specific questionnaire | Associate degree nursing students enrolled in nursing school during the years 1960–64 (925) | 67% were under 22 years of age while 25% were over 26 years of age. |
| | | Sex | Study-specific questionnaire | | 5% of the students were males, 50% of whom had prior nursing experience as medical technicians or corpsmen. |
| | | Father's occupation | Study-specific questionnaire | | The majority of the fathers of the nursing students were skilled laborers. |
| | | Reasons for selecting nursing as a career | Study-specific questionnaire | | 35% of the A.D. students would not have selected nursing as a career if the A.D. program had not been offered. |
| | | Marital status | Study-specific questionnaire | | 24% of the students were married when they started the program. |
| | | Presence of children in the family | Study-specific questionnaire | | 21% of the students had at least one dependent child during nursing school. |
| | | Residence | Study-specific questionnaire | | 100% of all the students lived in the community where the school was located. |
| 1972 | Miller [241] | Reasons for choosing school of nursing | Study-specific questionnaire | A.D. black freshmen nursing students (112) as compared with A.D. white freshmen nursing students (219) | No significant differences. |
| | | Age | Study-specific questionnaire | | Black students were younger than were the white students. |
| | | Decision to enter nursing | Study-specific questionnaire | | Black students made their decision earlier than did white students. |

Table 2.—Characteristics of students at entry to nursing school: descriptions and comparisons—Continued

| Year | Investigators | Attributes investigated | Measures used | Groups studied (N) | Relationships of findings |
|---|---|---|---|---|---|
| | | Prior work experience in a medical setting | Study-specific questionnaire | | Black students had significantly less prior work experience in medical settings than did white students. |
| | | Marital status | Study-specific questionnaire | | Fewer black students were married than were white students. |
| | | Sex | Study-specific questionnaire | | Male representation was higher among black students than among white students. |
| | | Family income | Study-specific questionnaire | | The family income of black students was lower than that of the white students. |
| | | State of residence as compared to geographic location of nursing school attended | Study-specific questionnaire | | No significant differences. |
| | | Religion | Study-specific questionnaire | | No significant differences. |
| | | Father's occupation | Study-specific questionnaire | | No significant differences. |
| | | Methods used to finance education | Study-specific questionnaire | | No significant differences. |
| | | Reasons for choosing nursing | Study-specific questionnaire | | Black students listed the reason that they enjoyed people as their primary reason, while white students had several primary reasons, which were related also to career satisfaction. |
| | | Factors influencing decision to become a nurse | Study-specific questionnaire | | No significant differences. |
| | | Relationship of nursing to other professions | Study-specific questionnaire | | Black students were more likely to consider nurses' salaries to be excellent and better than the salaries of other "female" occupations than were white students. |

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| | | Knowledge and perception concerning the nature of the nursing profession | Study-specific questionnaire | | No significant differences for any of the 10 variables. |
| | | Future career plans | Study-specific questionnaire | | No significant differences. |
| | | Feelings about length of nursing training | Study-specific questionnaire | | More black students considered the nursing training period to be too long than did white students. |
| 1973 | Davis [93] | Age at which career decision was made | ACL and a study-specfic questionnaire | Junior social work and nursing students at the University of California (100) | Most nursing students decided on their career during grade school and high school, while social work students waited until they entered college or even until their sophomore year in college. |
| | | Many variables dealing with self-concept and occupational expectations | ACL and study-specific questionnaire | | Nursing students and social work students differed on many of these variables. |
| 1974 | Johnson [163] | Sex | NLN survey questionnaire | All schools of nursing (N not reported) | 5.7% of all admissions to nursing schools are male and their are no significant variances according to geographic location. |
| | | Race | NLN survey questionnaire | | 11.6% of all admissions to nursing schools are black students with the South having the highest proportion of any geographic location. 3.7% of all admissions to nursing schools are Hispanic students, with certain Southern and Western States having the highest proportions of any geographic locaton. 1.3% of all admissions to schools of nursing were American Indian and Oriental students, with certain Western States having the highest proportion of any geographic location. |

Table 2.—Characteristics of students at entry to nursing school: descriptions and comparisons—Continued

| Year | Investigators | Attributes investigated | Measures used | Groups studied (N) | Relationships or findings |
|---|---|---|---|---|---|
| 1974 | Schwirian [327] | Age at which decision to enter nursing was made | Study-specific questionnaire | Sophomore nursing students in baccalaureate program (887) | Between 40% and 50% of the students had considered nursing before high school age and 50% had made their firm decision by age 16 or 17. |
| | | Influence of other individuals on career decision | Study-specific questionnaire | | Parents, especially the mother, are the most significant influencing individuals. |
| 1975 | Nash [267] | Age | Study-specific questionnaire | Baccalaureate nursing students (1,152) as compared with associate degree nursing students (1,652) as compared with diploma nursing students (1,959) as compared with practical nursing students (1,460) | More associate degree students were over 25 years of age than were students in the other types of programs. |
| | | Sex | Study-specific questionnaire | | A.D. programs have a higher percentage of male students than do the other types of programs. |
| | | Race | Study-specific questionnaire | | Practical nurse and A.D. programs have higher percentages of black students than do the other types of programs. |
| | | Marital status | Study-specific questionnaire | | A.D. programs had higher percentages of married students than the other types of programs, while practical nurse programs had higher percentages of separated and/or divorced students than did the other types of programs. |
| | | Number of children under 6 years | Study-specific questionnaire | | Practical nurse and A.D. programs had a higher percentage of students with children under the age of 6. |
| | | Geographic location of nursing program. | Study-specific questionnaire | | 84% of all nursing students regardless of program attended a nursing school less than 100 miles from their home. The A.D. and practical nurse program students |

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|  |  |  |  |  | were more likely to attend closer schools than were students from other types of programs. |
|  |  | Plans to continue nursing education | Study-specific questionnaire |  | More A.D. students had plans to continue their nursing education than did students from other types of programs. |
|  |  | Work status while attending nursing school | Study-specific questionnaire |  | More baccalaureate students worked while they were in nursing school than did students in the other types of programs, and 85% of all students regardless of type of program had worked prior to graduation and usually in a health care setting. |
|  |  | Work status prior to entering nursing school | Study-specific questionnaire |  | More practical nursing students were employed before entering nursing school than were students from other types of programs. |
| 1975 | Bullough and Sparks [64] | Reasons for choosing your present program | Study-specific questionnaire | Senior students in an A.D. nursing program (201) as compared with senior students in a baccalaureate nursing program (192) | A.D. students cited length of course and financial consideration significantly more often than did the B.S. students. |
| 1976 | Schwirian and Baer [329] | Age at which decision to enter nursing was made | Study-specific questionnaire | Sophomore nursing students in a baccalaureate program (522) | Between 40% and 50% of the students had considered nursing before high school age and 50% had made their firm decision to enter nursing by age 16 or 17. |
|  |  | Influence of other individuals on career decision | Study-specific questionnaire |  | Parents, and especially the mother, are the most significant influencing individuals. |

**Table 3.—Characteristics of entering students associated with nursing program attrition or completion**

| Year | Investigators | Predicted | Measure of predicted variables | Predictors | Measure of predictor variables | Group N | Findings |
|---|---|---|---|---|---|---|---|
| 1965 | Gerstein [125] | Attrition | Program completion | Intelligence | OTIS | 71 diploma students | Successful students demonstrated slower reading rates, but greater comprehension. Intelligence as a factor had little relationship to performance in the program. |
| | | | | | IPAT Culture Free Test of G | | |
| | | | | Vocational interest | SVIB | | |
| | | | | Reading ability | DRS, Form C | | |
| 1965 | Smith [340] | Attrition | Program completion | Personality characteristics | EPPS<br>16 PF | 264 diploma students | Successful students had higher interest in achievement and lower interest in sex and were higher in factors C and $O_3$ and lower in $Q_1$ and $Q_4$ (16 PF)—degree of conservatism and better adjustment. |
| 1965 | Plapp, et al. [293] | Attrition | Nursing school performance and program completion | Academic aptitude | SAT | 79 diploma students | Generally, significant correlations were found between predictors and criteria. Significant correlations existed between the predictors and dropout-continuance status in the first year but not the second year. The SAT was the only single predictor to correlate significantly with fourth quarter grades in the clinical nursing course. |
| | | | | Intelligence | OTIS | | |
| | | | | Academic achievement | High school rank | | |
| | | | | | Subjective self-rating of high school performance | | |

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|---|---|---|---|---|---|---|---|
| 1966 | May [230] | Attrition | Program completion | Values | AVL | 64 baccalaureate students | Dropouts scored higher on theoretical and economic scale. Remainder scored higher on the social scale. |
| 1966 | Klahn [170] | Success of first-year student nurses | | Self-concept | Osgood's Semantic Differential | 95 diploma students | No clearly defined pattern of correlation was found between variables. |
| | | | | Need for changing stimulus input | Garlington and Shimoto's Change Seeker Index | | |
| | | | | Vocational interest | SVIB | | |
| | | | | Academic achievement | High school GPA | | |
| 1967 | Katzell [200] | Attrition | Program completion | Satisfactions and stresses | Study-specific questionnaire expected and experienced | 1,852 first-year students in 43 diploma schools | There were no items that could be used to predict which students would remain and which ones would withdraw. Unrealistic expectations and the absence of expected satisfactions contributed to withdrawals. |
| 1968 | Katzell [166] | Attrition | Program completion | Satisfactions and stresses | Study-specific questionnaire expected and experienced | 1,852 first-year students in 43 diploma schools | There were no items that could be used to predict which students would remain and which ones would withdraw. Unrealistic expectations and the absence of expected satisfactions contributed to withdrawals. |
| 1970 | Krall [181] | Attrition | Program completion | Self-image | NLN PNG | 75 diploma freshmen | NLN useful for predicting academic failure dropouts (first year only). |
| | | | | | DAP | | Successful students drew a whole body with same sex identification. |
| 1970 | Katzell [259] | Attrition | Program completion | | NLN PNG (1959 Revised Edition) | 11,671 diploma students, 640 baccalaureate students, 241 A.D. students | Survivors exceed academic failures on mean PNG scores, but do not differ from nonacademic withdrawals. Almost all academic failures occur during the first year. |

**Table 3.—Characteristics of entering students associated with nursing program attrition or completion—Continued**

| Year | Investigators | Predicted | Measure of predicted variables | Predictors | Measure of predictor variables | Group N | Findings |
|---|---|---|---|---|---|---|---|
| | | | | | | | Entrants, survivors, and graduates of baccalaureate programs have higher mean PNG scores than A.D. or diploma. |
| 1970 | Kovacs [180] | Attrition | Program completion | Academic aptitude | SAT | 310 baccalaureate students | Establishment of a minimum standard of achievement of 500 on SAT-V, 500 on SAT-M, and 1,000 on the SAT total would have eliminated 46 to 59 percent of the withdrawals. |
| 1970 | Kovacs [179] | Attrition | Program completion | Academic aptitude | SAT | 310 bacclaureate students | Components of SAT correlated better with the available measure of intelligence than with high school rank. Mean scores for nonacademic withdrawals were significantly higher than for graduates on SAT-Verbal. There were statistically significant differences in high school rank between graduates and withdrawals. |
| | | | | Intelligence | Measure not specified | | |
| | | | | Academic achievement | High school rank | | |
| 1971 | Backman [20] | Attrition | Program completion | Intelligence | WAIS | 155 A.D. students | Graduates and voluntary withdrawals had significantly higher scores than academic failures on WAIS. Voluntary withdrawals performed significantly better than dismissals on the SAT. The average high school rank of voluntary withdrawals was significantly higher than dismissals. |

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| | | | | Academic aptitude | SAT | | |
| | | | | Academic achievement | High school rank | | |
| 1971 | Wittmeyer, et al. [389] | Attrition | Program completion | Academic aptitude | ACT | 119 baccalaureate students | Students who score higher in SAT-Math tend to remain in the program. The 16 PF show they tend to be less independent and less venturesome. Maximum attrition took place in the first and in the third through sixth quarters. |
| | | | | Personality | 16 PF | | |
| | | | | Perception and judgment | MBTI | | |
| | | | | Academic achievement | Prenursing point hour ratio | | |
| 1971 | Levitt, et al. [202] | Attrition | Program completion | Occupational preference | KPR (Form CM) | 425 baccalaureate sophomores | Dropouts indicated less interest in outdoor activities (KPR), were somewhat more willing to acknowledge psychopathological tendencies (MMPI-F), somewhat more likely to experience anxiety in manifest symptoms rather than in indirect ways (IPAT-B/A), somewhat more inclined to sociopathic behavior (MMPI-Pd). |
| | | | | Anxiety | IPAT | | |
| | | | | Personality | MMPI<br>EPPS | | |
| | | | | Empathy | Kerr | | |
| | | | | Intelligence | CCQ | | |
| 1971 | Liddle, et al. [205] | Obtainment or non-obtainment of a baccalaureate degree with a nursing major | | Adult attitudes and drives | TAV Selection System, ACL, PS, PREFS | 97 baccalaureate students | Although the research demonstrated the feasibility of TAV theoretical scores, the final multiple R of .34 is not of particular importance. |

**Table 3.—Characteristics of entering students associated with nursing program attrition or completion—Continued**

| Year | Investigators | Predicted | Measure of predicted variables | Predictors | Measure of predictor variables | Group N | Findings |
|---|---|---|---|---|---|---|---|
| 1972 | Knopf [173] | Graduation and withdrawal profiles | Program completion | Biographical characteristics (personal, parents, financial, choice of nursing, choice of program and school) | Career-Pattern Study questionnaire | 13,852 A.D. students | Likely to graduate were those over 20 years of age, married or formerly married. |
| | | | | | | 15,468 diploma students | Likely to graduate were white, nativeborn, attended high school in same State as birth. |
| | | | | | | 13,410 baccalaureate students | Likely to graduate, were Oriental, American Indian, "other," between the ages of 20-24, were foreign born, and attended high school outside continental United States. |
| 1973 | Hutcheson, et al. [155] | Attrition | Graduation or withdrawal from program<br>Nursing school performance | Total of 73 variables including: demographic, academic related, program related | | 50 baccalaureate students | There was a strong correlation between low clinical evaluations and not completing the program in sequence. Students who communicate personal matters to faculty are less likely to drop out. |
| 1974 | Raderman and Allen [300] | Attrition | Nursing GPA | Scholastic aptitude | SAT | 97 RNs in a baccalaureate program | Successful students scored significantly higher (SAT-V) and scored above the national mean (NLN). The successful group included significantly more A.D. graduates than diploma graduates. |
| | | | Program completion | Comprehensive achievement | NLN Achievement Tests (Medical-Surgical) | | |
| | | | | Academic achievement | GPA | | |

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| 1974 | Miller [240] | Followup on first-year dropouts. Reasons for withdrawal and alternative career choices | | | Study-specific questionnaire | 346 diploma students, 213 diploma students, 117 baccalaureate students | Demographically, there were no significant differences between students who dropped out and those who remained. Academic difficulty emerged as the single most prevalent reason for student withdrawal. Dropouts were not alienated from nursing. Diploma programs had the highest percentage of dropouts. |
| 1975 | Baker [25] | Program completion | Graduation or withdrawal from program | Opinions toward mental illness | OMI | 112 A.D. graduates from 5 programs | Graduates perceived emotional problems as being similar to other types of health problems. |
| | | | | Values<br>Interpersonal relations | AVL<br>FIRO-B | | AVL and FIRO-B did not differ significantly between graduates and dropouts. |
| | | | | Biographical characteristics | Biographical Inventory | | Graduates were older and married. |
| | | | | Belief-disbelief<br>Intolerance<br>Authoritarianism | DS (Form E) | | |
| | | | | Personality | CPI | | Graduates had a higher level of personal and social maturity. |
| | | | | General reasoning ability | Necessary Arithmetic Operations Test | | |
| | | | | Verbal comprehension | Extended Vacabulary Test | | Graduates had a higher level of verbal comprehension. |
| 1975 | Jones [164] | Attrition | Program completion | Personality characteristics | EPPS | 120 A.D. students | Persisters had a greater need for achievement, deference and heterosexuality. Dropouts obtained higher Needs Abasement scale. |

**Table 3.—Characteristics of entering students associated with nursing program attrition or completion—Continued**

| Year | Investigators | Predicted | Measure of predicted variables | Predictors | Measure of predictor variables | Group N | Findings |
|---|---|---|---|---|---|---|---|
| 1976 | Schwirian and Baer [330] | Attrition | Program completion or withdrawal | Values | AVL<br>Rokeach | 800 baccalaureate sophomores who entered in 3 successive years | While in each cohort of students certain variables and measures were found to be significantly associated with attrition (e.g., lower scores on the Chambers' Self-Health Rating Scale, mothers occupation, higher entering GPA), none of this wide variety of variables was related to attrition in all three cohorts. |
| | | | | Personality characteristics | 16 PF | | |
| | | | | Self-health rating | Chambers' Self-Health Rating Scale | | |
| | | | | Critical thinking | WGCTA | | |
| | | | | Academic achievement | Entering GPA | | |
| | | | | Demographics | Entering Resources Inventory | | |
| | | | | Self-perception of learning styles | Learning Style Inventory | | |

**Table 4.—Characteristics of entering nursing students associated with achievement in school**

| Year | Investigators | Predicted | Measure of predicted variables | Predictors | Measure of predictor variables | Group N | Findings |
|---|---|---|---|---|---|---|---|
| 1965 | Plapp, et al. [293] | Academic performance, continuance in program, and adequacy of clinical performance, in addition to consistency over time of the predictive validity of the measures used. | Nursing GPA (academic and clinical) | Scholastic aptitude | SAT | 77 diploma freshmen | Predictors correlated significantly with first quarter, but not fourth quarter grades in academic courses. The SAT was the only single predictor to correlate significantly with fourth quarter grades in clinical nursing course. |
| | | | | Intelligence | OTIS (Gamma AM Form) | | |
| | | | | Past academic high school performance | Study-specific subject self-rating of high school performance | | |
| | | | | Academic achievement | High school rank<br>Nursing GPA (first quarter, fourth quarter, first year, second year) | | |
| 1965 | Munday and Hoyt [256] | Compare validity of ACT with that of other measures and summarize predictive efficiency with respect to nursing grades. | GPA (first year) | Academic aptitude | ACT | 1,510 students, both nursing and liberal arts, from 2 diploma, 4 baccalaureate, 1 A.D. school, 1 university, and 1 junior college | ACT scores are excellent predictors of overall grades in the first year of nursing with substantial validity for predicting success in a variety of specific courses (English, social studies, etc.) |
| | | | | Academic achievement | GPA (first year) | | |

Table 4.—Characteristics of entering nursing students associated with achievement in school—Continued

| Year | Investigators | Predicted | Measure of predicted variables | Predictors | Measure of predictor variables | Group N | Findings |
|---|---|---|---|---|---|---|---|
| | | | | | A variety of local predictors selected by individual schools | | |
| 1965 | Taylor, et al. [356] | Determine effectiveness of measures used in predicting academic achievement | | | Data on students in files including 1) prenursing educational achievement records; 2) student forms for application to the nursing school; 3) scores on student selection tests, such as college entrance exams, nursing aptitude tests, academic aptitude tests, and intelligence tests; 4) scores on various personality tests and interest inventories; 5) course grades in specific courses; and 6) scores on achievement tests in nursing | 814 baccalaureate students from 3 programs | Some of the typically used predictors of academic achievement like ACE, Cooperative Achievement Tests and Otis Verbal Intelligence predict only a narrow spectrum of achievement in nursing education. |
| 1965 | Morman, et al. [251] | Academic achievement | GPA | Adult attitudes and drives | TAV<br>ACL<br>PS<br>PREFS | 100 baccalaureate students | No correlations were significant. |

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| 1966 | Michael, et al. [237] | Academic success and clinical performance | Word Performance Scale (activities that were judged coordinate with constructs in EPPS and 16 PF) | Personality characteristics | EPPS<br>16 PF<br>MMPI | 100 diploma students | Most valid predictors of academic success were the California Reading Test and high school academic achievement. Personality measures did not predict academic achievement. No predictors were significant for clinical performance. |
| | | | | Academic aptitude and achievement | CAT (Reading, Math) | | |
| | | | | | High school GPA | | |
| | | | | | Prenursing GPA | | |
| | | | | Spatial ability | EAST 5 | | |
| 1966 | Litherland [207] | Academic success | First-year nursing GPA | High school academic achievement | High school GPA | 3,358 diploma and baccalaureate students | Best single predictor of nursing GPA |
| | | | Final nursing GPA | | | | |
| | | | SBTPE scores | | | | |
| | | | | Academic achievement | ITED | | Test 3 (proficiency in Written Expression) was best subset predictor of nursing GPA |
| 1968 | Thurston, et al. [369] | Success in nursing school | Attrition or progam completion | Attitudes | LHSC | 463 diploma students | Significant relationship to achievement status. Achievers indicated more positive attitudes toward nursing. Personality tests were not significant. |
| | | | | Attitudinal area scores | NES | | |
| | | | | Personality | MMPI<br>RISB | | |
| | | | | Academic achievement | High school rank | | |

Table 4.—Characteristics of entering nursing students associated with achievement in school—Continued

| Year | Investigators | Predicted | Measure of predicted variables | Predictors | Measure of predictor variables | Group N | Findings |
|---|---|---|---|---|---|---|---|
| 1968 | Anderson [13] | Academic failure or success; success in senior-year nursing clinical practicum; transfers out of nursing to some other academic area | | Vocational interest | SVIB | 170 baccalaureate students (Study 1)<br>136 baccalaureate students (Study 2) | SVIB was most useful in differentiating between transfers and graduates. Based on MMPI, failures in clinical practicum were more likely to be rebellious and social, less anxious, and less concerned with physical symptoms. SCAT and high school rank were best predictors of academic success.<br>In the second study, the SVIB indicated significant differences in interest patterns between transfers and graduates. |
| | | | | Personality characteristics | MMPI (Experimental Scale) | | |
| | | | | Scholastic aptitude and achievement | SCAT, high school rank, and Missouri English Placement | | |
| 1968 | Tillinghast and Norris [370] | Academic success in nursing | Nursing GPA | Scholastic aptitude | SAT (Verbal, Math, and Total) | 219 baccalaureate students | SAT scores showed only a negligible correlation with nursing GPA. Correlations between high school GPA and nursing GPA were significant. |
| | | | | Academic achievement | High school GPA | | |
| 1969 | Burgess and Duffy [65] | Nursing school achievement | GPA | Vocational interest | KPR-V (Form C) | 150 baccalaureate students (junior level) | Prenursing GPA, in this case, combined freshman and sophomore GPA is the single most significant predictor. |
| | | | | Intelligence | WAIS | | |
| | | | | Creativity | RAT | | |
| | | | | Personality | MMPI | | |
| | | | | Self-concept | BARS | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | Verbal and quantitative ability | SCAT | | |
| | | | | Vocabulary and speed reading | Cooperative English Test | | |
| | | | | Grade attitude | Study-specific questionnaire | | |
| | | | | Academic achievement | Summer nursing grade | | |
| | | | | | GPA (combined freshman and sophomore) | | |
| | | | | Basic math ability | Study-specific questionnaire (KU–MATH) | | |
| | | | | Biographical sketch | | | |
| 1969 | Thurston, et al. [366] | Success in nursing school<br>Program continuance or completion | Achievement status | Attitudes | NES NSC<br>NES NAI | 224 diploma students from 6 schools, 463 diploma students from 8 schools | Low scores reflected attitudes associated with success in nursing education (program completion). NSC elicits responses that are generally related to success or failure in nursing education; however, there is considerable variation in the magnitude of this relationship from one school to another and to a lesser degree within one school from time to time. |
| 1970 | Johnson and Leonard [162] | Theory and practice grades as predicted by psychological characteristics and scholastic aptitude | Theory and practice grades and total grade | Scholastic aptitude | COT (Form B) | 77 baccalaureate students | None of the test variables was significantly correlated with practice grades. Students with a good background in math, high abstract reasoning ability, high academic motivation, and low sales interests were most likely to obtain high theory grades. |
| | | | | Vocational interest | SVIB–W | | |
| | | | | Personality | 16 PF (Form A) | | |

Table 4.—Characteristics of entering nursing students associated with achievement in school—Continued

| Year | Investigators | Predicted | Measure of predicted variables | Predictors | Measure of predictor variables | Group N | Findings |
|---|---|---|---|---|---|---|---|
| 1970 | Katzell [259] | Predictive validity of NLN–PNG for academic achievement | Classroom ratings | Aptitude for nursing | NLN–PNG (1959 Revised Edition) | 11,671 diploma students, 640 baccalaureate students. 241 A.D. students | The higher the students' classroom ratings, the higher the average scores in all areas of the PNG at entry. |
| 1970 | Johnson and Leonard [162] | Academic achievement | Theory and practice grades | Scholastic aptitude | CQT (Form B) | 77 baccalaureate students | None of the test variables was significantly correlated with practice grades. Students with a good background in math, high abstract reasoning ability, high academic motivation, and low sales interests were most likely to obtain high theory grades. |
| 1970 | Owen, et al. [284] | Achievement in nursing | Semester and cumulative GPA | Attitudes | NAI NSC | 321 A.D. freshman students in 5 programs | NAI NSC contributed uniquely and significantly (in the 1966 sample) to the prediction of grade averages. |
| | | | | Creativity | Creativity Self-Rating | | |
| | | | | Divergent thinking | Guilford's Consequences<br>Guilford's Alternate Uses | | |
| | | | | Scholastic aptitude | SAT | | |
| | | | | Memory | Short-Term Memory | | When added to a battery of established cognitive predictors, divergent thinking tests added a unique and significant increment to the prediction of grade averages. |
| | | | | Academic achievement | High school GPA (Math, Science, English)<br>Prior education in years | | |

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|---|---|---|---|---|---|---|---|
| 1971 | Michael, et al. [238] | Academic success | Program completion; nursing course grades | Scholastic aptitude | California Reading and Math Tests | 128 diploma students | The most valid predictor of success in the nursing program was the California Reading Test, although the correlations were modest or low. The 16 PF and MMPI had virtually no predictive value. The second and third most valid predictors were high school GPA earned in specific academic subjects and overall high school GPA. |
| | | | | Personality | 16 PF<br>MMPI | | |
| | | | | Academic achievement | High school course grades and GPA | | |
| | | | | Spatial ability | EAST #5 | | |
| 1971 | Backman and Steindler [21] | Success in nursing program | Nursing GPA | Intelligence | WAIS | 112 A.D. students | WAIS vocabulary and information subsets significantly related to nursing GPA. SAT Verbal showed higher correlations with CGPA than other measures studied. High school rank was a good predictor of nursing GPA. |
| | | | | Scholastic aptitude | SAT–Verbal and Math | | |
| | | | | Academic achievement | High school rank | | |
| 1971 | Weitman and Meyer [381] | Post-course retention of microbiology | Micobiology Retest scores (13 months later) | Aptitude for nursing | NLN–PNG | 43 baccalaureate students | PNG subscores (composite, speed, level of reading comprehension and natural sciences) were the best predictors of achievement in microbiology. |
| | | | | Academic achievement in microbiology course | Scores of first test on microbiology | | |

Table 4.—Characteristics of entering nursing students associated with achievement in school—Continued

| Year | Investigators | Predicted | Measure of predicted variables | Predictors | Measure of predictor variables | Group N | Findings |
|---|---|---|---|---|---|---|---|
| 1973 | Reed, et al. [305] | Academic achievement | Nursing GPA (first and second semester and first year GPA) | Self-concept (creativity and fluency) | Creativity Self-Rating Scale | 665 A.D. students (495 validation, 170 cross-validation) | Noncognitive predictors that increased the prediction efficiency of first semester GPA were: students' age in months and previous education.<br>Variables that increased efficiency of the cognitive battery when predicting second semester GPA were: students' age in months, year of entry into nursing school, and whether or not the student was enrolled in a specific school in the sample. |
| | | | | General anxiety | Taylor Manifest Anxiety Scale | | |
| | | | | Test anxiety | Sarason Test Anxiety | | |
| | | | | Biographical characteristics | Biographical Sketch | | |
| | | | | Scholastic aptitude | SAT | | |
| | | | | Academic achievement | High school rank | | |
| | | | | | Nursing GPA (first semester) | | |
| 1975 | Chissom and Lanier [72] | Freshman college course grades | CGPA | Scholastic aptitude | SAT (Verbal and Math) | 669 college freshmen | The SAT had limited validity for prediction of CGPA. High school GPA was the most valid predictor of CGPA. |
| | | | | Academic achievement | High school GPA | | |
| 1975 | Lewis and Welch [204] | Academic achievement | Nursing GPA | Academic aptitude | ACT | 104 baccalaureate juniors and seniors | Required college prenursing GPA was the only variable with significant regression weight. |

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| Prior academic achievement | Required college prenursing courses, GPA |
| | Elective college prenursing courses, GPA |
| | Total number of elective college credits |
| | High school rank |

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Table 5.—Characteristics of entering nursing students associated with State Board Test Pool Examination performance

| Year | Investigators | Predicted | Measure of predicted variables | Predictors | Measure of predictor variables | Group N | Findings |
|---|---|---|---|---|---|---|---|
| 1966 | Litherland [207] | SBTPE performance | | Academic achievement | ITED | 3,358 diploma and baccalaureate students | There was a positive relationship between high school GPA and State Board performance; even more significant was ITED in predicting SBTPE performance. |
| | | | | Prior academic achievement | High school GPA | | |
| 1968 | Tillinghast and Norris [370] | SBTPE performance | | Scholastic aptitude | SAT | 219 baccalaureate students | Correlated significantly with SBTPE scores. |
| | | | | Academic achievement | High school GPA | | Not significant |
| 1968 | Miller, et al. [239] | SBTPE performance | | Scholastic aptitude | SAT (Math and Verbal) | 116 A.D. students | SAT–Verbal was a positive predictor among all prenursing variables |
| | | | | Anxiety | Test Anxiety | | Not significant |
| | | | | | Taylor Manifest Anxiety | | Not significant |
| | | | | Memory | Memory Test | | Not significant |
| | | | | Academic achievement | Graduation Index | | Positive |
| | | | | | High school GPA | | Positive overall and English GPA |
| | | | | | Nursing GPA | | Positive |
| | | | | Biographical characteristics | Parents' occupation and education | | Father's occupation was positive |
| | | | | | Age upon entry into nursing | | Positive |
| | | | | | Amount of advanced education (prenursing) | | Positive |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1969 | Mueller and Lyman [254] | SBTPE performance | | Comprehensive achievement | NLN Achieve-Tests | 110 diploma students | The aptitude and ability predictors were generally highly positively correlated with the tests on the SBTPE. |
| | | | | Academic aptitude | Psychological Corporation Pre-Nursing Aptitude Test | | |
| | | | | Academic achievement | High school rank | | Positive |
| | | | | Personality | 16 PF | | Very minimal |
| | | | | Biographical | Family background | | No significance |
| 1970 | Katzell [259] | SBTPE performance | | Comprehensive achievement | NLN–PNG (1959 Revised Edition) | 11,671 diploma students, 640 baccalaureate students, 241 A.D. students | There is a significant degree of relationship between performance on the NLN Achievement Tests and SBTPE performance. |
| 1970 | Kovacs [179] | SBTPE performance | | Scholastic aptitude | SAT | 310 baccalaureate students from 3 schools | Best predictor |
| | | | | Academic achievement | High school rank | | Positive |
| | | | | Intelligence | Not stated | | Positive |
| 1970 | Goza [133] | SBTPE performance<br>Passed on initial attempt<br>Did not pass on initial attempt<br>Post-graduation work performance | Work Performance Evaluation | Academic potential | CTMM | 1 A.D. school | No difference on Reading Test or CTMM, Higher SBTPE scores associated with higher ACT, GPA, NLN Achievement Test performance, and GPP (sociability and original thinking scales.) On the Responsibility scale of the GPP, graduates scored higher than dropouts. |
| | | | | Academic | ACT<br>Diagnostic reading<br>NLN Achievement Tests | | |

Table 5.—Characteristics of entering nursing students associated with State Board Test Pool Examination performance—Continued

| Year | Investigators | Predicted | Measure of predicted variables | Predictors | Measure of predictor variables | Group N | Findings |
|---|---|---|---|---|---|---|---|
| | | | | Personality | GPP<br>GPI | | |
| 1971 | Backman and Steindler [21] | SBTPE performance | Nursing GPA | Intelligence | WAIS | 112 A.D. students | WAIS vocabulary and information subsets correlated significantly with SBTPE scores. SAT Verbal showed higher correlations with CGPA and SBTPE than other measures studied. |
| | | | | Scholastic aptitude | SAT (Verbal and Math) | | |
| | | | | Academic achievement | High school rank | | |
| 1972 | Reed and Feldhusen [304] | SBTPE performance | | Scholastic aptitude | SAT | 254 A.D. students in 5 schools | SAT Verbal most frequently significant among all prenursing variables for predicting SBTPE achievement. |
| | | | | Academic achievement | Percentile high school rank | | |
| | | | | | Nursing GPA | | |
| | | | | | Age at entry into nursing school | | Frequently significant in predicting SBTPE achievement. |
| | | | | | High school attended | | Predictive of SBTPE achievement |

Table 6.—Descriptive studies: attributes of nursing students

| Year | Investigators | What was described | Group N | Findings |
|---|---|---|---|---|
| 1965 | Skipper [338] | Perception of the role of the hospital nurse | 239 students and nurses in a large metropolitan hospital | Respondents viewed nurses' role to be expressive as well as instrumental. |
| 1968 | Mayes, et al. [232] | Career commitment and nursing student satisfaction/dissatisfaction | 77 baccalaureate sophomores | They reported incongruence between expectations and perceived reality. Major stresses concerned academic performance and personal identity problems. Other sources of stress: failure to receive sufficient approval, support, and intellectual stimulation; and concern over potential conflict of career and marriage. |
| 1969 | Gunter [138] | Self-appraisals and concerns of sophomore nursing students | 120 baccalaureate students | Their major concern was academic pressure. |
| 1969 | Gunter [137] | Attitudes toward nursing career | 120 baccalaureate sophomores | Students were "highly motivated" toward a nursing career. Their image of nursing was the traditional one. |
| 1971 | Collins and Joel [83] | Perceptions of the nursing profession | 231 baccalaureate sophomores, juniors, seniors and graduates of 1 year | Their image of nursing was generally traditional and technical. |

**Table 7.—Descriptive studies: performance of nursing students enrolled in school**

| Year | Investigators | What was described (and found) | Group N |
|---|---|---|---|
| 1968 | Redman [302] | The perceptiveness of teachers of clinical nursing regarding the accuracy of their judgments of how their students value various clinical relationships. (In general, teachers who thought they were more perceptive were more perceptive, but teacher-student congruence of values was not associated with a higher degree of perceptiveness.) | 368 students and 92 teachers in 4 baccalaureate and 11 diploma schools |
| 1969 | Wolff and Wasden [390] | The accuracy of estimates of intelligence (as measured by the WAIS) made by nursing instructors, the students themselves, and their peers. (Estimates were generally inaccurate, particulaly those of instructors r=−.57.) | 13 senior nursing students |
| 1973 | Johnson and Wilhite [160] | Reliability and validity of faculty's subjective evaluation of nursing students' prospects of being ". . . a successful nursing practitioner" and teacher-made tests. (When compared to scores on 3 NLN Achievement Tests, faculty rankings and tests were moderately valid and reliable.) | 300 junior baccalaureate nursing students |
| 1967 | Lawson and Henley [191] | Development of a 47-item instrument that could be used to evaluate students according to the traits judged important by the nursing faculty. The rating was intended to serve as a supplement to the GPA in evaluating achievement in a diploma program. | Not reported |
| 1968 | Anderson and Saxon [12] | Development of a valid, reliable, practical tool for evaluating a single-task clinical skill performance of sophomore students in a baccalaureate program. | Not reported |
| 1970 | Araneta and Miller [14] | Description of a strategy for using a nursing school's philosophy in determining an appropriate weighting of clinical and theory grades for overall student evaluation. (A.D. programs were more technically oriented and philosophies were stated in more concrete form; baccalaureate programs were more leadership oriented and philosophies were broadly stated; diploma programs fell in the middle.) | 9 diploma schools, 8 A.D. schools, and 6 baccalaureate schools |
| 1972 | McIntyre, et al. [219] | A considerably detailed description of the rationale, content, development, and testing of a clinical simulation instrument that was used to assess problem-solving behavior of nursing students in an experimental baccalaureate program. The test presented a description of a clinical problem arranged in its successive phases. In the controlled response (CR) portion, the student is presented with a series of alternatives from which she/he must choose; in the free response section (FR), the problem is presented and the respondent describes the action he/she would take. The authors went on to describe the scoring system and analysis models based on a benefits-to-risk strategy. | |

**Table 8.—Comparison studies: nursing students compared to non-nursing students**

| Year | Investigators | Attributes investigated | Measures used | Groups studied (N) | Relationships or findings |
|---|---|---|---|---|---|
| 1967 | Aldag and Christensen [7] | Personality | MMPI | Female nursing students (45)<br>Male nursing students (45)<br>Female junior college students (45)<br>Male junior college students (45) | a) Profile of male nursing students more similar to female nursing students than male junior college counterparts.<br>b) Male and female nursing students were more "feminine" than junior college counterpart.<br>c) Nursing student more "responsible-generous," "passive-dependent," less often "aggressive-rebellious." |
| 1969 | Gunter [136] | Self-actualization<br>Emotional maturity | POI | Sophomore baccalaureate nursing students (109)<br>College freshmen women (792)<br>"A self-actualized group" | Nursing students more self-actualized and mature than college freshman sample but less than sample peviously identified as "self-actualized." |
| 1969 | Bailey and Claus [22] | Personality of students in diploma and baccalaureate programs and norms for college women in general | EPPS | Baccalaureate students in four successive classes (247)<br>Baccalaureate students in two other schools (267)<br>Diploma students in two schools (103) | Traits of nursing students that recurred in all groups were: need for nurturance, abasement, succorance, and order. Needs for dominance, change, or affiliation never appeared. |
| 1970 | Aldag [6] | Vocational interests | SVIB | Male nursing students (145)<br>Female nursing students (145)<br>Male college students (145)<br>Female college students (145) | Male nursing students were higher on "feminine" scale than male college sample. |
| 1973 | O'Neill [279] | Value norms | Gordon's Survey of Interpersonal Values<br>AVL | Nursing students in baccalaureate program (all levels) (465)<br>College women norms | Nursing students higher than norms on Social and Theoretical, lower in Aesthetic, Economic, and Political. |

Table 9.—Comparison studies: nursing students in different types of programs

| Year | Investigators | Attributes investigated | Measures used | Groups studied (N) | Relationships or findings |
|---|---|---|---|---|---|
| 1966 | **Brand [52]** | Knowledge, skills of generic and RN students at completion of baccalaureate program | NLN Achievement Tests<br>AVL<br>Grades in 6 nursing courses<br>GPA | Generic students (8), RN students (8)<br>(Matched in intelligence) | Only significant difference was on NLN Maternal-Child Health Nursing Test; generic students were higher than RNs. |
| 1968 | Nichols [272] | Clinical observation skills | Film-based evaluation procedure | Baccalaureate students (70)<br>Diploma students (133) | Baccalaureate students made slightly higher number of relevant observations. |
| 1969 | **Edwards and Gribble [110]** | Life plans and attitudes toward working | Study-specific questionnaire | Senior baccalaureate and diploma nursing students (453)<br>Teacher's College seniors (250) | Diploma students not content with their education; least likely to get more education. |
| 1969 | Bailey and Claus [22] | Personality of students in diploma and baccalaureate programs and norms for college women in general | EPPS | Baccalaureate students in four successive classes (247)<br>Baccalaureate students in two other schools (267)<br>Diploma students in two schools (103) | Traits for nursing students that recurred in all groups were need for nurturance, abasement, succorance, and order. Needs for dominance, change, and affiliation never appeared. |
| 1971 | Connelly [85] | Motivation and career selection process | Study-specific questionnaire | Freshman in 4 baccalaureate schools, 5 diploma schools, 10 A.D. schools, and 14 LPN schools (970) | No differences |
| 1972 | Richards [310] | Intelligence<br>Personalty (responsibility, leadership potential, emotional stability, sociability)<br>Professional orientation | IPAT<br>Gordon Personal Profile<br>Professionalization Scale | Diploma students (107)<br>A.D. senior students (134)<br>Baccalaureate students (120) | No significant differences but baccalaureate students held a more "professional" ideal of nursing. |
| 1974 | Meleis and Farrell [234] | Attitude<br>Biographical factors | Leadership Opinion Questionnaire<br>Rosinski Student Attitude Inventory<br>WICHE Registered Nurse Satisfactory Achievement Scale<br>Student Biographical Inventory | Baccalaureate students (97)<br>Diploma students (53)<br>A.D. students (38) | A.D. students were higher on structure; diploma students were low on autonomy; no difference in self-esteem; diploma students place highest value on research; baccalaureate students, the lowest. |
| 1975 | Bullough and Sparks [64] | Care-Cure orientaton | 11-point work/task preference scale | A.D. senior students (201)<br>Baccalaureate students (192) | Baccalaureate students were more "care oriented". A.D. students, more "cure oriented." |

Table 10.—Comparison studies: men nursing students compared to women nursing students

| Year | Investigators | Attributes investigated | Measures used | Groups studied (N) | Relationships or findings |
|---|---|---|---|---|---|
| 1967 | Aldag and Christensen [7] | Personality | MMPI | Female nursing students (29)<br>Male nursing students (29)<br>Female junior college students (29)<br>Male junior college students (29) | Profile of male nursing students more similar to female nursing students than male junior college counterparts.<br>Male and female nursing students were more "feminine" than junior college counterparts.<br>Nursing students more "responsible-generous," "passive-dependent," less often "aggressive-rebellious. |
| 1970 | Aldag [6] | Vocational interests | SVIB | Male nursing students (45)<br>Female nursing students (45)<br>Male college students (45)<br>Female college students (45) | Male nursing students higher on "feminine" scale than male college students. |
| 1974 | Garvin [121] | Values | AVL | Men nursing students (35)<br>Women nursing students in three successive classes of a baccalaureate program (852) | Men nursing students higher on Theoretical and lower on Religious than female nursing students. Men nursing students differed from male college student norms on Economic, Aesthetic, Social, and Political. |

Table 11.—Prediction studies: performance in nursing school

| Year | Investigators | Predicted | Measure of predicted variables | Predictors | Measure of predictor variables | Group N | Findings |
|---|---|---|---|---|---|---|---|
| 1967 | Finegan [114] | Academic achievement after 1 year in nursing program | GPA<br>Clinical Rater's Evaluation Sheet<br>Clinical Form Score<br>NLN Achievement Test scores | Scholastic aptitude | SAT | 30 diploma students | SAT scores tend to be negatively correlated; high scores on the PVI scales "Direction" and "Persistence" are needed for success on Clinical Rater's Evaluation Sheet, Clinical Form Score, and GPA. |
| | | | | Motivational factors related to academic success | Personal Values Inventory | | |
| 1967 | Mowbray and Taylor [253] | Persistence in nursing school<br>Successful adjustment to nursing school | Program completion<br>Instructor's judgment | Occupational interest | KPR<br>SVIB | 143 diploma students | The KPR Social Service scale did differentiate significantly between dropouts and persisters, but not between poor adjusters and good adjusters. |
| 1968 | Ledbetter [193] | Academic achievement | NLN Achievement Test scores<br>Nursing course grades | Scholastic aptitude | ACT | 61 generic and 94 RN students in a baccalaureate program | Positive significant relationship except for clinical grades. |
| 1969 | Delora and Moses [97] | Nursing specialty preferences | | Personality traits | Study-specific questionnaire | 204 baccalaurea students on all levels | Greatest interest was in OB-Pediatrics; geriatric nursing generated least interest. |
| | | | | Occupational needs | Study-specific questionnaire | | |
| | | | | Scholastic achievement | Course work<br>Class rank<br>Entrance exam scores | | |
| | | | | Age | | | |
| | | | | Socioeconomic background | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1969 | Behring [34] | Nursing school achievement | | Adaptive functioning | TAT | 132 female junior and senior diploma students | High achievers used secondary process functioning; low achievers use primary process functioning. |
| | | | | Conflict | MAT | | |
| | | | | Sense of competence | Student Self-Evaluation Scale | | |
| | | | | Process functioning | APAS | | |
| | | | | Controlled use of impulse | Experience Inventory | | |
| | | | | Attitudes | NAI | | |
| | | | | Vocational preference | VPI | | |
| 1970 | Reekie [308] | College academic achievement | GPA | Prior academic achievement | Early college GPA | 158 senior baccalaureate nursing students | Sophomore GPA was best single predictor of overall college achievement. |
| | | | | Personality factors | MBTI<br>POI | | |
| | | | | Biographical factors | Biographical Inventory | | |
| 1971 | Komorita [177] | Achievement in nursing school | Clinical and theory grades Total GPA | Self-concept | Bills Index of Adjustment and Values | 503 students in three nursing schools | Self-concept/other concept was positively correlated with clinical grades; correlations of self-concept with clinical grades was consistently higher than with theory grades; self-concept measures were better predictors of clinical grades than the pre-entrance measures of achievement and aptitude; there was little difference in students' self-concept by year in school. |
| | | | | Prior academic achievement | GPA, Entrance exam score | | |
| 1972 | Burgess, Duffey and Temple [66] | Clinical and academic achievement | Junior year nursing GPA | Intelligence | WAIS | 143 female nursing students | Prenursing GPA was best single predictor; SCAT was next best predictor. |

Table 11.—Prediction studies: performance in nursing school—Continued

| Year | Investigators | Predicted | Measure of predicted variables | Predictors | Measure of predictor variables | Group N | Findings |
|---|---|---|---|---|---|---|---|
| | | | | Creativity | RAT | | |
| | | | | Vocational interest | KPR–C | | |
| | | | | Personality | MMPI | | |
| | | | | Self-concept | BARS | | |
| | | | | Grade attitude | Attitude Toward Grades (ATG) | | |
| | | | | Scholastic performance | Prenursing GPA and sophomore GPA | | |
| | | | | Scholastic aptitude | SCAT<br>Cooperative English Test<br>Math Test | | |
| | | | | Parents' educational levels | Biographical Record | | |
| 1973 | Bittman [44] | Student nurses' orientation along patient vs. technique continuum after 1 year in training | NPIT | Personality | 16 PF | 71 diploma students | Neither measure was able to predict student nurses' orientation. |
| | | | | Motivation | MAT | | |
| 1974 | Trusell and Pappas [373] | Effective nursing criteria | Nomination Scale of Effective Nursing Performance (NSENP) | Values | POI | 92 junior and senior baccalaureate nursing students | Class level and GPA were best predictors of performance on the NSENP. |
| | | | | Biographical data | Biographical Inventory (BI) | | |
| | | | | Scholastic achievement | GPA | | |
| | | | | Scholastic aptitude | ACT | | |

Table 12.—Prediction studies: State Board Test Pool Examination performance

| Year | Investigators | Predicted | Measure of predicted variables | Predictors | Measure of predictor variables | Group N | Findings |
|---|---|---|---|---|---|---|---|
| 1966 | Brandt, Hastie, and Schumann [54] | SBTPE performance | | Academic achievement | Nursing theory and practice grades | 156 juniors in 2 consecutive classes | Best predictors were: nursing theory grades, Washington Natural and Social Science Test scores, and the NLN Medical-Surgical Achievement Test scores |
| | | | | | NLN Achievement Test scores | | |
| | | | | | Washington Natural and Social Science Test | | |
| | | | | Nursing course sequence | | | |
| 1966 | Blaylock [47] | SBTPE performance | | 1) Number and variety of clinical facilities available to students<br>2) Mean size of facility and total number of patients using facility<br>3) Years of teaching experience by full-time nursing instructors<br>4) Degrees held by full-time instructors<br>5) Number of factors considered in student selection<br>6) Teacher-student ratio | | 273 A.D. graduates from 24 programs | Only charactristic of significance was degree held by full-time nursing instructors |

Table 12.—Prediction studies: State Board Test Pool Examination performance—Continued

| Year | Investigators | Predicted | Measure of predicted variables | Predictors | Measure of predictor variables | Group N | Findings |
|---|---|---|---|---|---|---|---|
| | | | | 7) Number of required units<br>8) Age of nursing program<br>9) Length of nursing program<br>10) Age of the college nursing program is affiliated with<br>11) Size of college<br>12) Research and publication by nursing faculty<br>13) "Team teaching"<br>14) Curricular approaches oriented toward "patient needs" | | | |
| 1968 | Baldwin, Mowbray, and Taylor [27] | SBTPE performance | | Academic achievement | Nursing theory grades<br>NLN Achievement Test scores | 113 diploma graduates | NLN Achievement Tests were good predictors; theory grades were not. |
| 1968 | Ledbetter [193] | SBTPE performance | | Scholastic aptitude | ACT | 61 generic and 94 RN students in a baccalaureate program | ACT, NLN Achievement Tests, and final GPA were predictive; clinical course grades were not. |
| | | | | Academic achievement | NLN Achievement Test scores<br>Nursing course grades | | |

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|---|---|---|---|---|---|---|
| 1970 | Reekie [308] | SBTPE performance | Personality factors (perception, judgment, and self-actualization) | MBTI | 158 senior nursing students | Sophomore GPA was best predictor. |
| | | | | POI | | |
| | | | Biographical factors | Biographical Inventory | | |
| 1971 | Muhlenkamp [255] | SBTPE performance | Academic achievement | Nursing and nursing related course grades | 96 baccalaureate graduates from 2 consecutive classes | Multiple correlations ranged from .66 to .83; best predictors were seventh semester GPA and the NLN Natural Science Test. |
| | | | | Seventh-semester GPA | | |
| | | | | NLN Achievement Tests | | |
| | | | Scholastic aptitude | SAT | | |
| | | | | Entering English Test scores | | |
| 1971 | Papcum [290] | SBTPE performance | Academic achievement | NLN Achievement Test scores | 23 A.D. graduates | All but 1 correlation was significant; best overall predictor was NLN test in maternal-child nursing. |
| 1975 | Dubs [102] | SBTPE performance | Academic achievement | Grades in nursing school | 30 diploma graduates | Final GPA and nursing theory grades were best predictors. |

**Table 13.—Prediction studies: job performance after nursing school**

| Year | Investigators | Predicted | Measure of predicted variables | Predictors | Measure of predictor variables | Group N | Findings |
|---|---|---|---|---|---|---|---|
| 1966 | Blaylock [47] | Performance in practice | Alice Price Efficiency Report | 1) Number and variety of clinical facilities<br>2) Mean size of clinical facilities and number of patients<br>3) Years of teaching experience by full-time instructors<br>4) Degrees held by instructors<br>5) Number of factors considered in student selection<br>6) Teacher-student ratio<br>7) Required units<br>8) Age of nursing program<br>9) Length of nursing program<br>10) Age of college nursing program is associated with<br>11) Size of college<br>12) Research and publication by nursing faculty<br>13) "Team teaching"<br>14) Curricular approaches oriented to "patient needs" | | 273 A.D. graduates from 24 programs | No characteristics were associated with scores on the performance measure. |

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|---|---|---|---|---|---|---|---|
| 1966 | Bohan [49] | Performance after 9 months in practice | Self and supervisory ratings | Academic achievement | Grades | 108 Baccalaureate graduates from 40 programs employed in 45 agencies | No relationship between course grades and performance evaluations. |
| 1968 | Brandt and Metheny [55] | Post-graduation on-the-job performance | Self and employer ratings | Academic achievement | GPA in practice courses | 84 baccalaureate graduates and 68 supervisors | Only GPA in practice courses was moderately significant; all other predictors dropped out. |
| | | | | | GPA in theory courses | | |
| | | | | | University GPA | | |
| | | | | SBTPE scores | | | |
| | | | | Professional activities | ANA membership | | |
| | | | | | Continuing education activities | | |
| 1969 | Girona [127] | Success as nurses | Instructors' nominations | Self and other concepts | Affect and evaluative factors on Semantic Differential | 22 female junior baccalaureate students | Positive association between self-concept and predicted success. |
| 1970 | Reekie [308] | Clinical performance | Clinical Nursing Rating Scale (CNRS) | Personality factors | MBTI | 158 senior baccalaureate nursing students | Sophomore GPA was best single predictor of achievement on the CNRS. |
| | | | | | POI | | |
| | | | | Biographical factors | Biographical Inventory | | |
| 1974 | Wilson [385, 386] | On-the-job performance | Study-specific questionnaire | Academic achievement | Nursing GPA | 153 baccalaureate graduates from 1 school | Achievement measures showed no relationship to performance as rated by the graduates, their supervisors, or the physicians with whom they worked. |
| | | | | | Science GPA | | |
| | | | | | Overall GPA | | |
| | | | | SBTPE scores | | | |
| | | | | Age | | | |
| | | | | Experience | | | |
| 1975 | Dubs [102] | On-the-job performance | Instrument developed from school's terminal objectives | Academic achievement | Grades in nursing school | 30 diploma graduates | Nursing practice grades were best predictors of performance in practice. |

**Table 14.—Change studies: outcomes of specific learning experiences**

| Year | Investigators | Attributes investigated | Measures used | Intervening experiences | Group N | Findings |
|---|---|---|---|---|---|---|
| 1967 | Sams [321] | Anxiety | IPAT | Exposure to high or low stress instructional environments | 55 sophomore nursing students (half high anxious; half low anxious) | High performance levels associated with low anxiety, nonstress instruction, and simpler tasks. |
| | | Performance | Study-specific questionnaire | | | |
| | | Observations of behaviors | Study-specific questionnaire | | | |
| 1968 | Kramer, et al. [188] | Achievement of course objectives | Paper and pencil test | Exposure to teacher and situation variables | 72 first-year students in a baccalaureate program | Students preferred continuous to noncontinuous experience; students preferred noncontinuous instructor mode. |
| | | Stress | Presence or absence of stress as indicated by illness and body weight fluctuations | | | |
| 1970 | Adams [2] | Attitudes towards mental illness | Custodial Mental Illness Ideology (MI) | Psychiatric rotation and medical surgical rotation | 25 diploma nursing students (tested during psychiatric rotation), 25 diploma nursing students (tested during medical-surgical rotation) | The groups changed differently only in attitudes towards psychiatric patients; psychiatric rotation students became less custodial in their orientation. |
| | | Personality | 16 PF<br>EPPS | | | |
| 1971 | McLaughlin [221] | | Gough's ACL | Nursing group dynamics | 144 baccalaureate senior nursing students, 42 baccalaureate nursing students in another program | Students in experimental group became less submissive and more outgoing, while those in control group became more submissive and less outgoing. |

Table 14.—Change studies: outcomes of specific learning experiences—Continued

| Year | Investigators | Attributes investigated | Measures used | Intervening experiences | Group N | Findings |
|---|---|---|---|---|---|---|
| 1972 | McLaughlin, et al. [222] | Effects of leadership styles | Gough's ACL<br>Observer ratings of session audiotapes | Group dynamics course | 66 fourth-year nursing baccalureate students randomly assigned to 3 different leadership formats | No significant differences on humanistic factor or achievement-assertion control factor. Programmed tape group did have higher ratings or self-actualization-low bureaucratic factor. |
| 1972 | Quiring [299] | Achievement<br>Quality of performance | Videotape<br>Itemized behavioral checklist (used to evaluate videotapes) | Experimental teaching approach (immediate and delayed feedback) | 72 sophomore baccalaureate nursing students | No significant differences between performance of the immediate feedback and delayed feedback groups. |
| 1974 | Mealy and Peterson [233] | Self-actualization | POI | 11-week psychiatric rotation | 39 senior diploma students | Personality changes did occur and could be measured; major changes within Inner Directedness toward a greater degree of self-actualization. |

Table 15.—Change studies: progression through nursing school

| Year | Investigators | Attributes investigated | Measures used | Intervening experiences | Group N | Findings |
|---|---|---|---|---|---|---|
| 1965 | Schulz [326] | Personality | EPPS | Three years of nursing school experience | 131 baccalaureate students as sophomores and seniors | Sophomores were more sympathetic, interested in behavior of others, needing encouragement from significant others, and insecure. |
| 1965 | Coe [79] | Self-concept in terms of self-identity with nursing | TST | One year of nursng school | 64 freshmen diploma students at beginning and end of freshman year | There was a significant shift in the self-conceptions of freshman student nurses. There was an increase in identification with nursing situations, an increase in other-directed "personality" statements, and a decrease in self-directed "personality" statements. |
| 1967 | Pallone and Hosinski [286] | Self and ideal self-concepts | Hanglon's Q–Cards | Experience with nursing | 96 generic baccalaureate students in all 4 years | No significant difference demonstrated between groups. |
| | | Self-concept and perception of junior's occupational role | | | 48 RN students in baccalaureate program | |
| | | Ideal self-concept and perception of nurses' occupational role | | | 24 RN students graduate nursing program | |
| 1968 | Siegel [334] | Degree of professional socialization | Davis-Olesen Characteristics of Nursing Questionnaire | Nursing school experience | 297 sophomores and seniors in two baccalaureate programs and 49 faculty | The findings did not necessarily support the concept of progressive professional socialization |
| 1968 | Schoeberle and Craddick [325] | Self-image<br>Image of ideal nurse<br>Image of undesirable nurse | DAP | Nursing school experience | 90 freshmen, 90 seniors in diploma schools | Seniors portrayed themselves in uniforms more often than freshmen (suggesting more identity with profession); otherwise, no significant differences. |

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|---|---|---|---|---|---|---|
| 1968 | Psathas and Plapp [296] | Effects of nursing programs on students' personality needs | EPPS<br>Modification of the Recurrent Cycle design described by Campbell and Stanley | Nursing school experience | 79 diploma students tested in freshman and senior years | Heterosexuality increased and deference decreased. |
| 1968 | Psathas [295] | Student nurses' attitudes and perceptions re specific roles and situations | Study-specific questionnaire | Nursing school experience | 76 diploma freshmen, 49 diploma seniors | Freshmen were more optimistic and idealistic; seniors were more "technique oriented" and less patient oriented. Seniors were also more confident in professional interaction situations. |
| 1969 | Stein [347] | Personality needs | EPPS | Nursing school experience | 154 baccalaureate students as sophomores and seniors | Seniors were higher on heterosexuality, change, autonomy, lower on nurturance and deference. |
| 1969 | Stein [348] | Image of nursing as sophomore and senior students | Study-specific questionnaire | Nursing school experience | 108 baccalaureate students | Senior image was more professional. |
| 1969 | Klahn [171] | Self-concept<br>Actual-real self-congruence<br>Change-seeking need | Semantic Differential<br>Garlington and Shimota's Change Seeker Index | Nursing school experience | 74 diploma students in two schools | For school "A," self-concept improved and became more congruent with ideal self. For school "B," ideal self became more idealistic, actual self did not improve. |
| 1970 | May and Ilardi [231] | Personality<br>Attitude<br>Demographic characteristics | AVL | Nursing school experience | 41 baccalaureate students over 3 successive years | Scores progessively lower on theoretical and religious scales; progressively higher on aesthetic and political scales. |
| 1970 | Lenburg, et al. [197] | Inference of pain and psychological stress | 40-item scale developed by investigators | Nursing school experience | 108 first-year A.D. nursing students<br>150 second-year A.D. nursing students | First-year students inferred greater physical pain, but more advanced students inferred the greater amount of psychologcial distress. |

Table 15.—Change studies: progression through nursing school—Continued

| Year | Investigators | Attributes investigated | Measures used | Intervening experiences | Group N | Findings |
|---|---|---|---|---|---|---|
| 1970 | Bailey, et al. [23] | Creative behavior | Torrance Tests of Creative Thinking<br>Bailey General Nursing Problems Test | Number of years of experience in experimental baccalaureate nursing program | 141 women in a baccalaureate school of nursing | Class with most experience in curriculum was superior on verbal creativity measurement. However, the class with no experience in experimental curriculum was highest on measure of figural creativity. Other differences were not significant. |
| 1971 | Friedman [118] | Perception of a good nurse | Study-specific questionnaire | Nursing school experience | 48 freshmen diploma students<br>46 senior diploma students | Fewer seniors than freshmen considered "good appearance" and "dedication" as "very important" for a good staff nurse. No other significant differences found. |
| 1972 | Sharp and Anderson [332] | Image of ideal nurse | Gough's ACL | Nursing school experience | 117 bacalaureate students and 14 faculty | Year-to-year progression of nursing image as more flexible, creative, worthy, and professional. Seniors have closest agreement with faculty image. |
| 1972 | McIntyre, et al. [219] | Problem-solving and decision making skills | Clinical simulation test developed by the investigators | Number of years experience in experimental baccalaureate nursing program (0–3) | 46 nursing students (Class of 66)<br>49 nursing students (Class of 67)<br>43 nursing students (Class of 68)<br>53 nursing students (Class of 69) | Classes with most experience demonstrated: 1) improved communication and data collection skills; 2) pattern of low risk decision-making; 3) an increased percentage of agreement with decision sequence previously identified by experts as most appropriate. |

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|---|---|---|---|---|---|---|
| 1974 | Dietz [98] | Comparison of self-concept of nursing freshmen, nursing seniors, and non-nursing College norms | Gough's ACL | Four years of nursing school experience | 270 diploma freshmen<br>209 diploma seniors | No difference between seniors and freshmen. No difference between nursing students and non-nursing norms. |
| 1974 | Brown, et al. [56] | Images of nursing profession | 19-item checklist questionnaire | 10 years | 53 sophomore students<br>21 junior students<br>12 instructors of sophomore and junior students | Nursing student images and values had remained stable over 10 years |
| 1974 | Bittman [44] | Nursing student orientation on patient-technique continuum | NPIT | One year of nursing school | 71 second-year diploma students | There was a significant change from patient to technique orientation. No other differences were significant. |
| | | Personality | 16 PF | | | |
| | | Motivation | MAT | | | |

**Table 16.—Descriptive studies of practicing nurses: measure of performance**

| Year | Investigator | What was described | Group N | Findings |
|---|---|---|---|---|
| 1967 | Dyer [107] | The development and testing of the Nurse Performance Description Scales and a description of the interrelationships among the sub-scales (developed via factor analysis) and various nurse characteristics | 200 RN's (152 staff, 30 head nurses, and 18 supervisors) from 4 hospitals | The unique characteristics that a nurse brings to the working situation influence her ability as a clinician, as well as her ability to work with and through people. The author feels the Nurse Performance Description Scales held quite well as it was scrutinized for validity, reliability, discriminating power, and predictability. |
| 1967 | Moore [244] | How nursing service directors use A.D. graduates (measured with a 25-item structured interview) | 16 nursing service directors | No differences reported in the use of A.D.'s and RN's prepared in other programs, nor were salaries any different. |
| 1967 | Coe [78] | The development and testing of a forced-choice questionnaire based on eight nursing behaviors, broadly stated for the purpose of identifying selected behavioral objectives most important to the practice of professional nursing. | 20 staff nurses<br>21 nursing supervisors<br>22 recent baccalaureate graduates<br>20 baccalaureate faculty members | There was generally little agreement between the four groups. The staff nurses and supervisors, however, had the most between-group agreement. |
| 1967 | Brandt, et al. [53] | The relationship between on-the-job performance of graduates and the educational objectives of their schools of nursing. | 84 baccalaureate graduates from 2 successive classes at one school | On the whole, the graduates considered themselves as capable or more capable than most graduates and were also viewed as such by their immediate supervisors. On the content areas in which behaviors were categorized, responsibility on the job was rated highest and motor skills lowest. |
| 1968 | Verhonick, et al. [376] | The development and testing of a series of five filmed sequences depicting patient situations to measure nurses' observational techniques and the nature of actions they would recommend | 1,576 convention attendees (professional nurses, PN's, nursing students, and non-nurse attendees) | a) There were 5,963 relevant observations; 1,066 irrelevant observations.<br>b) Number of relevant observations increased with academic degree held.<br>c) 1 percent of observations were inappropriate.<br>d) Sixty-seven percent of the recom- |

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| | | | | mended actions were supportive; 30 percent were therapeutic.<br>e) Number of supportive actions were higher with higher academic degrees. |
| 1970 | Nealey and Owen [269] | Development of a multitrait, multimethod technique for rating nurses' performance | 25 head nurses in a VA hospital | Their findings "... have implications for the establishment of an effective performance-reward feedback system by which superiors could motivate subordinates." |
| 1970 | Dunn [103] | The development and testing of an objective instrument for evaluating clinical nursing performance based on a task analysis approach. Panel of experts aided in assigning appropriate weights for scoring | 35 RN's in a large Federal hospital:<br>1 A.D.<br>28 diploma<br>5 baccalaureate<br>1 master's | The instrument was found to be reliable in describing and evaluating performance. However, there was no relationship between the evaluated nurses' performance evaluation and their knowledge of nursing theory. |
| 1970 | Durham [105] | The development and use of a patterned performance reporting device for evaluating performance of nurses in hospitals | 120 RN's from 1 hospital | The author contends that the main contribution was the attempt to quantify and control rater bias. |
| 1973 | Ashkenas [17] | The determination of aids and deterrants to performance of nursing care | Original sample of 550 (longitudinal)<br>442 1-month postgraduate A.D.'s<br>320 4-month postgraduate A.D.'s<br>262 6-month postgraduate A.D.'s | Findings were reported in terms of the relevant variables associated with the employing agency, the educational program, and the A.D. graduate as a practitioner. The author concludes that the adjustment of A.D. nursing graduates to hospital nursing has been less traumatic than many individuals have been led to believe. |
| 1975 | Risser [312] | The development of a 25-item Likert-type scale to evaluate patient attitudes toward nurses and nursing care in a primary care setting. Subscales: a) technical-professional area b) interpersonal educational relationship, and c) interpersonal trusting relationship | 138 patients | The author suggests that further testing of the scale for validity is needed and that further associations of measures on the scale with theoretically significant aspects of behaviors are indicated. |

Table 17.—Descriptive studies of practicing nurses: attitudes toward nursing profession

| Year | Investigator | What was described | Group N | Findings |
|---|---|---|---|---|
| 1969 | Kramer [186] | Attitudes toward the profession 2 years after graduation | 63 baccalaureate graduates | The professional role conceptions had declined. Three career patterns emerged:<br>a) "involved"—characterized by intense commitment to nursing profession (N=18)<br>b) "amalgamated"—committed and involved with nursing, but it clearly was not their major career (N=33)<br>c) "escape or utilitarian"—little involvement or commitment to nursing; highly disillusioned and embittered (N=12). |
| 1970 | Heidgerken [146] | Influence of significant others on the choices of a teaching career in nursing or a clinical specialty career | 207 senior baccalaureate nursing students and 332 graduate students enrolled in master's nursing program in 20 schools | Dominant influentials were nursing educators, peers, and parents. Patterns were similar for both the educational and clinical groups. |
| 1970 | American Journal of Nursing [11] | Survey of A.J.N. subscribers on attitudes toward their profession, toward professional organizations, and significant health issues | 2,289 random national sample of A.J.N. subscribers | Direct patient care does not have the prestige it should have within the nursing profession. The A.N.A. should certify practitioners who meet certain criteria for excellence in practice. There should not be two kinds of registered nurses but nurses who have baccalaureate degrees should have a higher starting salary than those who don't. |
| 1971 | Hayter [144] | Postgraduate vocational and educational activities and future plans of graduates and the opinions of these graduates and their employers concerning the adequacy of the graduate's preparation for their job | 182 baccalaureate graduates and 168 of their supervisors | Results indicated that the graduates from this particular school are being prepared satisfactorily for their professional role. No major change of curriculum emphasis seems indicated. |
| 1971 | Hurka [154] | Bureaucratic and professional role orientations held by practicing nurses | 260 nurses employed in 4 metropolitan hospitals (81 baccalaureate graduates, 159 diploma graduates, and 20 A.D. graduates) | a) Professional orientation was inversely related to bureaucratic orientation.<br>b) Professional orientation scores of baccalaureate graduates was higher than diploma and A.D., but not significant.<br>c) Nurses with more work experience had higher bureaucratic role orientations.<br>d) Bureaucratic role orientation did not |

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| | | | | differ according to the official position held by the responding nurses.<br>e) Professional role orientation was related to job satisfaction but not to satisfaction with a nursing career. Bureaucratic role orientation was related to both. |
| 1972 | Benton and White [38] | Survey of hopsital nurses to identify sources of satisfaction and dissatisfaction with their jobs | 565 practicing RN's in 8 specialty areas in general care hospitals in a metropolitan area | Factors most important were safety, security, social, esteem, and self-actualization. Of least importance were pay and personnel policies. |
| 1973 | White and Maguire [382] | Factors described as consistently leading to job satisfaction and dissatisfaction and to assess the validity of Herzberg's motivation-hygiene theory for this population | 32 nursing supervisors from 6 general hospitals | Three motivators—Work Itself, Possibility for Growth, and Recognition—appeared significantly more often with satisfaction. Supervision-Technical and hygiene, was found significantly more often with dissatisfaction. For these four factors the validity of the motivation-hygiene theory appears to be upheld. |
| 1974 | Pankratz and Pankratz [289] | Views of nurses regarding dependence versus independence for both nurses and patients (nursing autonomy and patients' rights) | 200 RN's in a large community hospital<br>206 nursing administrators<br>296 RN's from diverse settings | Principal components analysis revealed three subscales: nursing autonomy and advocacy, patients' rights, and rejection of traditional role limitations. Higher scores were found to be associated with education, leadership, academic setting, and nontraditional social climate. |
| 1974 | McCloskey [211] | Reasons for leaving jobs in nursing | 94 registered nurses who had resigned from positions in metropolitan hospitals in 2 cities within previous 4 months | Highest turnover rates were among younger nurses and new graduates. No differences were found according to: marital status, spouse's salaries, diploma or baccalaureate nurses, salary levels, or specialty area. The author concluded that "psychological rewards were more important than safety or social rewards in keeping nurses on the job." |
| 1974 | Munson and Heda [257] | The validity of a modified instrument designed to measure job satisfaction as an organizational variable. How different respondents evaluate certain job conditions and the amount of variability that may be expected in these evaluations | 351 RN's and LPN's from 8 hospitals | When answers were subjected to matched-pair correlations, the instrument, using four factors (intrinsic, involvement, interpersonal, and extrinsic), was found to have the properties ascribed to it and to measure job satisfaction as an organizational variable. |

Table 18.—Comparison studies of practicing nurses: nursing performance

| Year | Investigators | Attributes investigated | Measures used | Groups studied (N) | Relationships or findings |
|---|---|---|---|---|---|
| 1968 | Harrington and Theis [141, 360] | Nurses perceptions of those institutional conditions and requirements which influenced their ability to carry out professional nursing functions | Semistructured interview | Baccalaureate graduate nurses employed at Loeb Center and two other metropolitan hospitals (46) | The majority of nurses in the "typical" metropolitan hospitals could be described as frustrated, unchallenged and passive, while the Loeb Center counterparts tended to be satisfied, enthusiastic, and self-directing. It appeared that satisfaction was associated with 1) a work environment that permits the nurse to use her range of professional knowledge and skills, and 2) congruence between the concept of nursing held by the nurse and what she is expected to do on the job. |
| 1969 | Highriter [149] | Performance of nurses in a public health nursing service | Study-specific rating scales dealing with patient progress and identification of family needs | Baccalaureate nursing graduates from 16 schools (31) and diploma nursing graduates from 20 schools (30) | No significant difference according to type of nursing school. Further analysis of several other nurse characteristics thought to account for performance differences was also done. |
| 1970 | Smoyak [345] | SBTPE scores, nursing performance experiences with supervisors and attitudes concerning the nursing profession | Study-specific questionnaire | Diploma and baccalaureate graduates after 6 months in practice (291) | No significant differences |
| 1971 | Christman [73] | The level of performance of baccalaureate nurses employed in functional (traditional) units and units run by the unit manager system | Slater Nursing Competency Rating Scale<br>Kreuter's seven components of Nursing Care | Staff or head nurses in four health care agencies in one city (425) | Nurses in the unit management setting had higher performance scores |

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| 1972 | McDonnell, Kramer, and Leak [213] | Strategy employed in problem-solving | Tape recorded interviews | Baccalaureate nurses (220) who graduated from 37 different schools and who were classified by their nursing service director as being in one of the following groups: High successful, Average in success, Less successful than average | 1) More highly successful nurses proposed innovative strategies indicating a higher degree of flexibility.<br>2) No significant differences were found concerning the factors considered. |
| | | Integration of expressive and instrumental role functioning | Likert-type study-specific questionnaire | | |
| | | Factors considered in formulating a solution to a problem | Tape recorded interviews | | |

Table 19.—Comparison studies of practicing nurses: employment practices

| Year | Investigators | Attributes investigated | Measures used | Groups studied (N) | Relationships or findings |
|---|---|---|---|---|---|
| 1966 | O'Neil and Madaus [280] | Vocational interest patterns | SVIB | Graduates from baccalaureate nursing programs (30) as compared with graduates from diploma nursing programs (30) | Diploma nurses scored higher on buyer, elementary teacher, office worker, dietician, nurse, housewife, and home economics teacher scales. Baccalaureate graduates scored higher on the psychologist scale. |
| 1968 | Stauffacher and Navran [346] | Personality characteristics | EPPS | Diploma program graduates after 5 years of nursing experience (453) | Significant changes occurred in 11 of the 15 needs areas. The greatest changes were higher mean scores for achievement, order, and heterosexuality, and a lower mean score for abasement. |
| 1969 | Bellinger and Cleland [35] | Variables that might influence employment patterns | Study-specific questionnaire and Haas' Image of Nursing Scale | White registered nurses living in a metropolitan area (542) as compared to black registered nurses living in the same area (36) | 1) No significant differences were found in age, number of children at home, and years of part-time work.<br>2) The following significant differences were found: a) education, income and perceived adequacy of income of spouse was higher for white RN's; b) educational level of black RN's was higher; c) the married black nurse was more likely to be actively employed in nursing than the white counterpart. |
| 1970 | Smoyak [345] | Plans for employment | Study-specific questionnaire | Senior students in 7 baccalaureate programs as compared to senior students in 6 diploma programs (264) | Diploma students planned to work in hospitals that were familiar to them, while baccalaureate students tended to choose facilities that were new to them. |
| 1970 | Heidgerken [147] | Work values of undergraduate and graduate nursing students | Work Motivation Schedule by Kinnane and Suziedelis | Senior baccalaureate nursing students (207) and graduate nursing students (332) from 20 different schools. | The specific work values of each group corresponded to their stated career choice. |

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| | | preparing for teaching positions and clinical practice | Nurse Career Preference Schedule—study-specific questionnaire | | |
| 1971 | Krueger [190] | Utilization of nurses with different educational backgrounds | Study-specific questionnaire | Diploma graduates (45) as compared to baccalaureate graduates (24) as compared to LPN's (37) as compared to nurses' aides (22) | The utilization of nurses in the sample was not closely related to their educational preparation. |
| 1974 | American Council on Education [10] | Postgraduation employment status | Study-specific questionnaire | College freshmen who intended to enter any one of 9 different health occupations (1, 340, 326) | Four out of five of the students who had become nurses were employed, most of them fulltime, 1 year after graduation, as compared to 90% of the laboratory technicians and 75% of the therapists who were also employed at that time. |

**Table 20.—Comparison studies of practicing nurses: personal values and role conception**

| Year | Investigators | Attributes investigated | Measures used | Groups studied (N) | Relationships or findings |
|---|---|---|---|---|---|
| 1972 | Benner and Kramer [37] | Professional role conception<br>Bureaucratic role conception<br>Integrative role behavior<br>Role deprivation | Corwin's Bureaucractic and Professional Role Conception Test<br>Kramer's Integrative Role Behavior Test<br>Corwin's Role Deprivation Test | Nurses in special care units (54) (16 still in SCU; 36 SCU dropouts; 2 SCU nurses now in public health) as compared with nurses in general hospital units (110) (80 still on regular units; 30 regular unit dropouts) | No significant differences in the professional and bureaucratic role conception between the SCU and regular nurses. Dropouts from both groups had higher professional role configurations. SCU nurses had higher integrative role behavior scores. |
| 1972 | Lynch [208] | Knowledge, attitudes, and skills before and after attending leadership conferences | Preconference and postconference objective exams | RN's in various administrative and leadership positions (51) | The number of correct and incorrect responses on preconference and postconference examinations indicated that changes occurred primarily in the areas of knowledge and skills. Attitudes did change somewhat. However, no tests of significance were reported for this study. |
| 1974 | Blaney [46] | Personal and professional value systems | AVL<br>Study-specific questionnaire | Graduates from three A.D. and three baccalaureate nursing programs (339) | There was a significant difference between A.D. and B.S respondents in the Theoretical Scale. Otherwise, there were no notable value differences observed |
| 1974 | Bullough [63] | Job satisfaction | Study-specific questionnaire | Pediatric nurse practitioners (17) as compared to extended role nurses (18) as compared to other types of RN's (38) | Pediatric nurse practitioners rated highest in both intrinsic and overall job satisfaction. However, more nonspecialists were satisfied with nursing as a career and reported that they would choose it again if given the chance |
| 1975 | Hover [153] | Patient preference<br>Satisfactions with and opinions about co-workers, supervisors, and nursing<br>Education and career goals | Study-specific questionnaire | Diploma (54), "diploma plus," (29) and baccalaureate staff nurses (20) from three hospitals who had worked on inpatient units at least 2 months. | 1) As education increased they preferred more active patients and were more interested in providing teaching and supportive care.<br>2) No relationship was found between education and satisfaction with job, colleagues, and superiors. |

3) All respondents favored more nurse autonomy
4) "Good nurse" definitions from baccalaureate graduates more often contained cognitive and technical abilities.
5) When career goals were compared, diploma graduates most often cited nursing service positions, while baccalaureate graduates most often cited nursing education or research

Table 21.—Prediction studies of practicing nurses: occupational attitudes

| Year | Investigators | Predicted | Measure of predicted variables | Predictors | Measure of predictor variables | Group N | Findings |
|---|---|---|---|---|---|---|---|
| 1967 | DeFriese [96] | Alienation from work role | Study-specific questionnaire | Structural complexity of work environment | Observations and a study-specific questionnaire | ICU nurses and regular ward nurses in the same hospital (N was not reported) | Alienation was positively related to structural complexity of work environment. However, there was no association between alienation and measures of work performance quality |
| 1968 | Knudson [176] | Interest in advancing into an administrative position | Study-specific questionnaire | Social class origins<br>Responsibilities for physical care of family<br>Financial responsibilities<br>Willingness to move residence<br>Marital status<br>Education<br>Age<br>Advancement<br>Possibilities located in agencies near residence | Study-specific questionnaire | 217 public health staff nurses<br>72 supervisors in public health agencies<br>27 public health administrators | Those respondents who were the most interested in advancing were those who:<br>1) Reported a career orientation for themselves and their mothers.<br>2) Were between 30 and 49 years old.<br>3) Had graduated from a baccalaureate program.<br>4) Were willing to take risks in selecting a job.<br>5) Viewed promotional opportunities in near-home agencies as favorable. |
| 1969 | Kramer [182] | Job satisfaction in terms of role deprivation | Study-specific index and a Likert-type role deprivation scale | 1) Decision-making structure<br>2) Presence of clinical nurse specialists<br>3) Presence of "innovative baccalaureate nurse roles"<br>4) Dual promotional ladders<br>5) Use of a ward manager system | Tape recorded interviews and printed materials from the institutions | 220 nurses in 37 medical center hospitals | Positive associations were found with predictors 1-4. No significant associations were found with predictors 5-9. |

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|---|---|---|---|---|---|---|---|
|  |  |  |  | 6) Starting salary<br>7) Baccalaureate nurse salary differential<br>8) Size of hospital<br>9) Geographic region |  |  |  |
| 1971 | Nichols [273] | Intent to stay or leave nursing positions in military service | Study-specific questionnaire | Job satisfaction | Ease of Movement Scale<br>Importance Scale<br>Alternatives Scale | 181 novice Army nurses | 1) Men intended to remain in these positions more often than women.<br>2) Overall, no significant differences in terms of marital status.<br>3) Those intending to stay in these positions were more satisfied.<br>4) Leavers perceived greater opportunity for satisfaction in civilian life. |
| 1971 | Kramer and Baker [187] | Persistence or attrition from nursing practice | Interviews and study-specific questionnaire | Professional or bureaucratic role orientation | Interviews and study-specific questionnaire | 220 baccalaureate graduates | Highest dropout rate was among graduates with a professional role orientation. |
| 1972 | Kramer, McDonnell, and Reed [189] | Self-actualization | POI | Bureaucratic role conception<br>Professional role conception<br>Total role deprivation<br>Integrative role behavior<br>Persistence in nursing practice<br>Employer's rating of performance | BRC Likert-type scale<br>PRC Likert-type scale<br>TRD Likert-type scale<br>IRB scale<br>Job status index<br>Job success index | 195 nurses in 37 medical center hospitals | No relationships were found for the role conceptions, role deprivations, or role behaviors. The effect of varying strengths of adherence to the bureaucratic work system and to the professional code were separately and jointly interactive with job success when the time competence aspect of self-actualization was examined and jointly interactive when the inner-directed scale was used. |

**Table 22.—Prediction studies of practicing nurses: on-the-job performance**

| Year | Investigators | Predicted | Measure of predicted variables | Predictors | Meaurse of predictor variables | Group N | Findings |
|---|---|---|---|---|---|---|---|
| 1965 | Cleland [75] | Nursing performance | Nursing Achievement Test<br>Social Interaction Test | Four levels of situational stressors | Marlowe-Crowne Social Desirability Scale | 60 diploma graduates employed as general duty nurses on medical-surgical units of the hospital from which they graduated. | 1) A curvilinear relationship between performance and magnitude of situational stress.<br>2) The quality of performance as measured by the more difficult items on the NAT reached a maximum level in lower stressor conditions than the quality of performance on the easier NAT items.<br>3) More deterioration in SIT scores than NAT scores as stressor level increased.<br>4) The nurses with high need for social approval demonstrated greater deterioration on the NAT with increased stress than did those with low social approval needs. |
| 1965 | Cohen, Trehub, and Morrison [81] | Nursing performance | Supervisor ratings | Personality characteristics | EPPS | 49 psychiatric nurses in a VA hospital | The three groups into which the participating nurses were divided on the basis of supervisor ratings were shown to be more like each other than like the EPPS norms. |
| 1970 | Kramer [185] | Nursing performance | Employer ratings of an employee as being highly successful or less successful nursing practitioners | Bureaucratic role conception<br>Professional role conception<br>Role deprivation | R. G. Corwin Likert-type scales | 220 baccalaureate graduate nurses employed for 9 months to 1 year in one of 37 different medical center hospitals | 1) "Highly successful" nurses had higher bureaucratic scale scores than those classified as "less successful."<br>2) "Less successful" nurses had higher professional scale scores than did "average successful" nurses, but not higher than the "highly successful" nurses. |

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| | | | | | | | 3) "Less successful" nurses reported more role deprivation than "average" or "highly successful" nurses. |
| 1972 | Dyer, et al. [108] | On-the-job nursing performance | NPDS<br>DSNP | Biographical data, attitudes, and values<br>Word psychological atmosphere<br>Mode of social interaction | Registered Nurse Biographical Inventory<br>Head Nurse Behavior Description Scales<br>CPI | 1,018 nurses in 31 VA hospitals | High performing staff nurses had higher CPI scores for social presence, sense of well-being, responsibility, tolerance, achievement via performance, and intellectual efficiency. Head nurses of high performing staff nurses were helpful to patients and staff, explained reasons for criticisms, were willing to discuss decisions, ate with staff members, and complimented staff members, and did not become annoyed with problem patients. |
| 1972 | Saffer and Saffer [320] | On-the-job nursing performance 3 years after graduation | Self and employer ratings on 16 selected nursing activities | Academic achievement | High school rank and nursing school grades | 82 graduates from one diploma school of nursing and 58 of their employers | Neither the graduates self-evaluations nor the employers' evaluations correlated significantly with any part of the graduates past academic records. |
| 1974 | Kelly [168] | Promotion to leadership positions | | Personality characteristics | MMPI<br>16 PF<br>EPPS<br>CPI | 545 RN's employed in a large university hospital | Thirteen of the 61 variables tested (using multiple correlations) differentiated the promoted nurses from the non-promoted nurses. Promoted nurses were more independent, feminine, distant, had more capacity for status, were more self-assured, relaxed and intelligent. They were also less prone to psychological pressures. |

Table 22.—Prediction studies of practicing nurses: on-the-job performance—Continued

| Year | Investigators | Predicted | Measure of predicted variables | Predictors | Measurse of predictor variables | Group N | Findings |
|---|---|---|---|---|---|---|---|
| 1975 | Felton [113] | "Quality" of nursing care | Quality Patient Care Scale<br>Slater Nursing Competencies Scale<br>Phaneuf Nursing Audit | Organization of nursing care delivery<br>Primary nursing versus team and/or functional nursing.<br>One hospital unit using each of these methods was studied. | | 11 nurses in the primary nursing unit and 7 nurses on the team and/or functional nursing unit | The combination quality score index was higher for the primary care unit. |
| 1975 | Dyer, et al., [109] | Quality of patient care<br>Nursing performance | Veteran's Administration Nursing Care Quality Evaluation<br>Wayne State Quality Patient Care Scales<br>Patient interview<br>NPDS, DSNP, and Official Performance Rating Ranking | Personality characteristics | Biographical Inventory<br>CPI | 387 staff nurses in 7 VA hospitals | Very low r's between performance ratings and patient care scores. Education was related positively to both patient care and performance measures, and also to all CPI scales except responsibility. Age was negatively related to the CPI scales except for responsibility, self-control and good impressions. |

## Section III.

## ANNOTATED BIBLIOGRAPHY

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   This research examines professional registered nurses' commitments to their profession, clinical specialties, and current employers (all of which are hospitals.)

9. Altman, Stuart H. *Present and Future Supply of Registered Nurses.* Washington, D.C.: U.S. Government Printing Office, 1971. (DHEW Pub. No. (NIH) 72–134).

   The analysis of noneconomic factors influencing an individual's decisions, such as choice of a nursing career, type of education and program, and continued professional practice is presented. The report examines the nature of the shift in the composition of the types of nursing schools and its anticipated impact on the future supply of nurses.

10. American Council on Education Policy Analysis Service-USPHS. *Trends and Career Changes of College Students in the Health Fields.* (A Summary Report) Washington, D.C.: U.S. Government Printing Office, November 1974. (DHEW Pub. No. (HRA) 76–54).

    The report presents an executive summary of all three phases of the study, which describes the dynamics of career choice in the health field and presents some of its more significant findings.

11. American Journal of Nursing. "Nurses, Nursing, and the ANA" *American Journal of Nursing,* Vol. 70 (April 1970), 808–815.

    A random sample of subscribers are queried about their attitudes toward their profession, toward professional organizations, and toward today's significant health issues.

12. Anderson, Diann M. and Saxon, Jean. "Performance Evaluation of Nursing Students." *Nursing Outlook,* Vol. 16 (May 1968), 56–58.

    The article deals with the development of a tool to evaluate more objectively the clinical performance of moving a patient from a supine to a side-lying position.

13. Anderson, Wayne. "Predicting Graduation From a School of Nursing." *Vocational Guidance Quarterly,* Vol. 16 (June 1968), 295–300.

    This article presents a summary of two studies conducted at the University of Missouri School of Nursing, dealing with the problem of differentiating reasons why nursing students do not graduate.

14. Araneta, Narcisa C. and Miller, Carol L. "Philosophical Systems of Weighting Clinical Performance in Nursing." *International Journal of Nursing Studies,* Vol. 7 (November 1970), 235–242.

    A reasonable method of weighting a combined nursing course grade with regard to clinical nursing practice and theory is questioned in the study.

15. Armstrong, Myrna. "Bridging the Gap Between Graduation and Employment." *Journal of Nursing Administration,* Vol. 4 (November-December 1974), 42–48.

    This article describes the use of the concept of an orientation unit, with an orientation period of 4 weeks minimum, to create an individually guided orientation program to help successfully "bridge the gap" between student and nurse roles.

16. Arndt, Clara; Nelson, Jo Anne; Beard, Elsie M.; and Meyer, Burton. "Administrative Factors in Nursing That May Inhibit Job Effectiveness." *The Journal of Nursing Education*, Vol. 7 (January 1968), 33–43.

    This article explores some theoretical considerations regarding the interplay of how work output may be extended or inhibited in nursing positions in relation to role, personality, and behavior of the nurse. This is illustrated by one study on job satisfaction and one on job effectiveness.

17. Ashkenas, Thais Levberg. *Aids and Deterrents to the Performance of Associate Degree Graduates in Nursing.* (League Exchange No. 99) New York: NLN, 1973. (Pub. No. 23–1465).

    This report is a study of the factors that helped or hampered graduates of 26 AD programs in giving nursing care during the first 6 months of employment in general hospitals. The report summarizes the graduates assessments of themselves and their performance, and examines their employing agencies and their educational programs. Conclusions drawn from the study and recommendations based on it are directed to practitioners, teachers, and employers.

18. Astin, Alexander W. *Preventing Students From Dropping Out.* San Francisco: Jossey-Bass Publishers, 1975.

    The author provides new information about student characteristics (at the time of college entry), which predict dropping out—academic ability, academic and family background, study habits, future aspirations—and develops estimates of "dropout proneness." He then shows how chances of dropping out are related to such institutional characteristics as caste, religious affiliation, location, selectivity, and size, and to the "fit" between the student and the college. His new data also shed light on the impact of policies regarding financial aid, employment, and residential arrangements. He predicts not only which policies are likely to minimize the number of dropouts, but also the number and percentage of potential dropouts who can be salvaged. Likely results of alternative policy actions are presented separately for men and women, blacks and whites, married and unmarried students, and students of different abilities and backgrounds.

19. Atkinson, Lucy Jo. "Differences in Job Effectiveness." *American Operating Room Nurse Journal*, Vol. 5 (March 1967), 66–77.

    The study is conducted to determine the effect of hospital and individual differences upon the job performance of the operating room supervisor. The investigation explores the relationship between differences in standards set for the job performance of the OR supervisor and the differences in methods preferred by supervisors in resolving problems within the work situation.

20. Backman, Margaret and Steindler, Frances. "Let's Examine—Cognitive Abilities Related to Attrition in a Collegiate Nursing Program." *Nursing Outlook*, Vol. 19, No. 12 (December 1971), 807, 808.

    The study investigates cognitive differences between those students who withdrew voluntarily and those who were dropped from a collegiate nursing program.

21. Backman, Margaret and Steindler, Frances. "Let's Examine—Prediction of Achievement in a Collegiate Nursing Program and Performance on State Board Examinations." *Nursing Outlook*, Vol. 19, No. 7 (July 1971), 487.

    The purpose of this study is to investigate the relationships of specific admission criteria to success in the Rutgers associate degree nursing

program and performance on State Board examinations.

22. Bailey, June. "Comparative Analysis of the Personality Structure of Nursing Students." *Nursing Research,* Vol. 18, No. 4 (July-August 1969), 320–326.

    Personality need patterns of four classes of beginning nursing students at the University of California as measured by the Edwards Personal Preference Schedule are described. It is hypothesized that persons with certain personality types entered the profession of nursing.

23. Bailey, June; McDonald, Frederick J.; and Claus, Karen E. "Evaluation of the Development of Creative Behavior in an Experimental Nursing Program." *Nursing Research,* Vol. 19, No. 2 (March-April 1970), 100–107.

    Students in three classes at the University of California School of Nursing are evaluated on the development of creative behavior following the introduction of an experimental curriculum.

24. Bailey, P., Jr. "Some Comparisons of Occupational Therapy Biographical Facts With Implications For Recruiting." *American Journal of Occupational Therapy,* Vol. 22 (July-August 1968), 259–263.

    The responses to a Career Questionnaire of 185 college women enrolled in an introductory course to the health related professions, and who later earned a degree in occupational therapy, medical technology, physical therapy, nursing or education at the University of Florida are examined for differences that may be useful in prediction, counseling, or recruiting.

25. Baker, E. Jo. "Associate Degree Nursing Students: Nonintellective Differences Between Dropouts and Graduates." *Nursing Research,* Vol. 24, No. 1 (January-February 1975), 42–44.

    This study is concerned with determining whether students who completed associate degree nursing programs differed on various nonintellective characteristics from those students who entered but failed to complete their programs within the allotted time.

26. Baker, Sheldon R. "The Relationship of Social Attitudes to Manifest Needs." *Nursing Research,* Vol. 14, No. 4 (Fall 1965), 345, 346.

    This study's purpose is to examine the relationship between social attitudes of powerlessness, anomie, normlessness, and status considerations to manifest personality needs of freshman nursing students.

27. Baldwin, Jean P.; Mowbray, Jean K.; and Taylor, Raymond G., Jr. "Factors Influencing Performance on State Board Test Pool Examinations." *Nursing Research,* Vol. 17, No. 2 (March-April 1968), 170–172.

    The study is conducted within a hospital school of nursing, using final grades in theory and grades received on NLN Achievement Tests as possible means to predict achievement on State Board Test Pool Examinations, and then using the predictions to counsel students prior to their taking the State Boards.

28. Banikiotes, P. G.; Russell, J. M.; and Linden, J. D. "Social Desirability, Adjustment and Effectiveness." *Psychological Reports,* Vol. 29 (October 1971), 581, 582.

    Measures of social desirability are correlated with measures of adjustment and effectiveness which were methodologically independent, i.e., structured personality tests. Different relationships are found in the two groups. Responding in a socially desirable manner seems to be intricately related to positive psychological health.

29. "Battle Report, The Diploma Schools Today." *RN,* Vol. 31 (October 1968), 31–45.

    *RN* sent a questionnaire to directors of the 797 diploma schools listed in 1967 by the NLN to find answers

to the following questions: "What has caused the demise of so many of these schools? Is the attrition likely to continue? How strong are the schools today? What is their role in today's nursing education? Are they likely to survive as educational institutions independent of the colleges and universities?"

30. Bare, Carole E. "Behavioral Change Through Effective Evaluation." *The Journal of Nursing Education*, Vol. 6, No. 4 (November 1967), 7-21.

If nursing education is to be successful in bringing about behavior modification, i.e., learning in nursing students, educators must learn to apply the various techniques of evaluation. The role of objectives must be clear to educators as well as students, and the methods of education must be tailored individually to the requirements of various types of institutions and, above all, to the needs of specific student groups.

31. Barenholtz, Benjamin and Edelson, Ruth B. "The Evaluation of Emotional Health in the Selection and Education of Students." *Nursing Outlook*, Vol. 15 (May 1967), 40-43.

The authors describe their efforts towards training faculty interviewers to recognize symptoms of emotional illness in LPN school applicants, and toward devising a more effective selective method for applicants.

32. Barritt, Evelyn R. and Irion, Lou Anne. "Advantages and Disadvantages of Nongrading." *Nursing Outlook*, Vol. 18 (April 1970), 40, 41.

Psychologically, nongrading has its good points for the nursing student, but realistically, will its interpretation help or hinder her admission to graduate school? The alternatives considered and the rationale developed for using a nongrading system in nursing are presented.

33. Bayer, Alan E. "Marriage Plans and Educational Aspirations." *American Journal of Sociology*, Vol. 75, No. 2 (September 1969), 239-244.

This report represents an attempt to explore the hypothesis that there is a strong independent influence exerted by marital plans on educational aspirations.

34. Behring, Daniel William. "Adaptive Functioning: A Rationale for the Prediction of Achievement in Nursing Education." Athens, Ohio: Ohio University, 1969. *Dissertation Abstracts International*, Vol. 31, (1969), 1065-A.

The purpose of this study is to test the assumptions that secondary process functioning is characteristic of high achievers and primary process functioning is characteristic of low achievers; that secondary process functioning is accompanied by more adaptive behavior, less conflict, and a greater sense of competence; and to determine assessment tools that significantly contribute to the prediction of academic achievement at Walter Reed Army Institute of Nursing.

35. Bellinger, A. C. and Cleland, Virginia S. "A Comparative Analysis of Negro and Caucasian Nurses on Selected Organismic and Job-Related Variables." *Nursing Research*, Vol. 18 (November-December 1969), 534-538.

This study is undertaken for the purpose of comparing Negro and Caucasian nurses on selected organismic and nursing-related variables which might be expected to influence their pattern of employment.

36. Bellucci, J. T. "The Contribution of Values in Predicting Success in Practical Nursing Training Programs." Bethlehem, Pennsylvania: Lehigh University, 1970. *Dissertation Abstracts International*, Vol. 31 (December 1970), 2731-A.

This study is designed to determine if values are related to the level of academic success during training and to the completion of the training

program. A second aspect is to investigate whether a measure of values could be used to increase the predictability of performance on the Practical Nurses' Licensing Examination and completion of the training program.

37. Benner, Patricia and Kramer, Marlene. "Role Conceptions and Integrative Role Behavior of Nurses in Special Care and Regular Hospital Nursing Units." *Nursing Research*, Vol. 21, No. 1 (January-February 1972), 20–29.

From a national sample of 220 subjects, 45 nurses who had worked in special care units for at least 6 months are studied to determine what differences existed between these nurses and those who had worked only in regular hospital units. Scores of the two groups are compared on two tests, Corwin's Bureaucratic and Professional Role Conceptions and Role Deprivation Test and Kramer's Integrative Role Behavior.

38. Benton, Douglas A. and White, Harold C. "Satisfaction of Job Factors for Registered Nurses." *Journal of Nursing Administration*, Vol. 2 (November-December 1972), 55–63.

Registered nurses are surveyed in order to determine their responses concerning the importance and level of satisfaction of certain job factors.

39. Bergman, Rebecca. "A Study of the Relationship Between Responses to Attitude Questions and Personal Variables of Nursing Students in Israel." *International Journal of Nursing Studies*, Vol. 5 (June 1968), 117–133,

Attitudes of nurses and nursing students to patient care can play an important role in the kind of service they provide. As a part of a larger study on development of understanding of public health nursing in students during the 3 years of study in schools of nursing, responses to selected attitude questions are correlated with personal variables of the students.

40. Bergman, Rebecca; Edelstein, Aharon; Rotenberg, Aviva; and Melamed, Yosef. "Psychological Tests: Their Use and Validity in Selecting Candidates for School of Nursing in Israel." *International Journal of Nursing Studies*, Vol. 11 (1974), 85–109.

A four-phase study is conducted in Israel to examine the relationships between psychological tester recommendations, rejection, attrition, and achievement of the applicants in 16 schools for registered nurses.

41. Bergman, Rebecca and Strulovici, Nelu. "Socio-Demographic Characteristics of Israeli Student Nurses." *International Journal of Nursing Studies*, Vol. 7 (1970), 67–79.

Sociodemographic characteristics of students admitted to Israeli schools of nursing in 1967 are presented and compared to a similar study done in 1965. The study is initiated to determine the effect on admission to nursing programs after higher educational criteria were introduced in 1966.

42. Bernstein, Lewis; Turrell, Eugene S.; and Dana, Richard H. "Motivation for Nursing." *Nursing Research*, Vol. 14, No. 13 (Summer 1965), 222–226.

Some of the personality correlates associated with the choice of nursing as a career are assessed. To explore unconscious motivation for nursing, the TAT stories of 67 student nurses are compared with Eron's normative data for women.

43. Bessent, Hattie. "A Curriculum Design for Disadvantaged Students in a Baccalaureate Nursing Program." Gainesville, Florida: University of Florida, 1970. *Nursing Research*, Vol. 20, No. 5, (September-October 1971), 465.

The purpose is to develop a design for curriculum to meet the educational needs of disadvantaged students, and to explore the concept of change as it relates to the disadvantaged student in the following aspects: 1) changing cognitive style; 2) developing an adequate value system; and 3) raising the level of aspiration.

44. Bittman, Stanley Allen. "Prediction of Patient-Technique Orientation of Student Nurses After One Year of Nursing School." Lubbock, Texas: Texas Technological University, 1973. *Dissertation Abstracts International,* Vol. 34 (March 1975), 4622–4623–B.

The study is done to determine 1) if personality and motivational variables could predict student nurses' orientation along the patient versus technique continuum after 1 year; 2) if student nurses' orientation changed over the 1-year period; and 3) if there was more than one "type" of student nurse in terms of personality and motivational variables.

45. Blanchfield, W. C. "College Dropout Identification: A Case Study." *The Journal of Experimental Education,* Vol. 40, No. 2 (Winter 1971), 1–4.

This study, which demonstrates the statistical technique of Multiple Discriminate Analysis, has 69–87 percent success in identifying dropouts at college; questions the most effective way of financing higher education; and points out need for reevaluation of presently used indicators of student success.

46. Blaney, D. R. "Comparison of Value Systems of the Graduates of Two Types of Programs in Nursing." Bloomington, Indiana: Indiana University, 1973. *Dissertation Abstracts International,* Vol. 34 (February 1974), 3877–B.

Professional and personal values held by students who graduated in 1973 from 2- and 4-year collegiate nursing education programs are identified; liberal arts and/or general education content of the programs from which they graduated are ascertained, and a relation between differences of program length and content and values held by the students is attempted to be formulated in this study.

47. Blaylock, Enid Veronica. "Relationship Between Selected Factors in California Associate Degree Nursing Programs and Performance by Their Graduates." Los Angeles, California: University of Southern California, 1966. *Dissertation Abstracts International,* Vol. 27(B), (March 1967), 3157–3158.

The study is concerned with ascertaining whether significant relationships existed between the type of nursing program from which an associate degree student nurse graduated and her performance after graduation.

48. Bloom, Bernard L. "A University Freshman Preventive Intervention Program: Report of a Pilot Project." *Journal of Consulting and Clinical Psychology,* Vol. 37 (October 1971), 235–242.

The objectives are to develop greater emotional maturity; more successful adaptation to college community; less psychological disability and fewer dropouts. This is done by using an interactive process with special questionnaires.

49. Bohan, Sister Kathleen Mary. "Performance Relationship: Nursing Student to Professional Nurse." Washington, D.C.: The Catholic University of America, 1966. *Dissertation Abstracts International,* Vol. 27(A) (March 1967), 2931–2932.

The purpose is to determine the relationship of an individual's performance in the college nursing major through grades in nursing courses and performance as a professional nurse through self-evaluation and supervisory evaluation.

50. Boyle, B. P. and Coombs, R. H. "Personality Profiles Related to Emotional

Stress in the Initial Year of Medical Training." *Journal of Medical Education*, Vol. 46 (October 1971), 882–888.

The objective is to investigate the sources of stress which typically beset medical students and to analyze the relationship between stress proneness and the personality characteristics of medical students.

51. Boyle, Richard P. "The Effect of the High School on Students' Aspirations." *American Journal of Sociology*, Vol. LXXI, No. 6 (May 1966), 628–639.

A Canadian study is conducted to determine factors related to high schools which have important effects on the aspirations of their students (such as population composition, differential success of high schools in developing the scholastic abilities of their students, etc.)

52. Brand, Vera J. "A Comparative Study of Two Groups of Students Enrolled in Baccalaureate Programs in Nursing, University of Virginia, 1964–1965." Doctoral Dissertation, University of Virginia, 1966.

The purpose is to ascertain whether or not the students completing the basic baccalaureate program for registered nurses shared similar knowledge of nursing, similar nursing skills, and similar attitudes.

53. Brandt, Edna Mae; Hastie, Bettimae; and Schumann, Delores. "Comparison of On-The-Job Performance of Graduates with School of Nursing Objectives." *Nursing Research*, Vol. 16, No. 1 (Winter 1967), 50–60.

This study concerns itself with determination of a relationship between one's performance as a graduate nurse and the educational obectives of one's school of nursing. Questionnaires consisting of 51 statements are sent to 157 graduate nurses and their immediate supervisors.

54. Brandt, Edna Mae; Hastie, Bettimae; and Schumann, Delores. "Predicting Success on State Board Examinations: Relationships Between Course Grades, Selected Test Scores, and State Board Examinations." *Nursing Research*, Vol. 15 (Winter 1966), 62–69.

Intercorrelations of theory course grades, clinical practice grades, scores on the Washington University Natural Science and Social Science Test, NLN Achievement Tests and State Board Examinations are explored. Evaluation of the revised curriculum of the school of nursing is also achieved.

55. Brandt, Edna Mae, and Metheny, Bettimae Hastie. "Relationship: Between Measures of Student and Graduate Performance." *Nursing Research*, Vol. 17, No. 3 (January-February 1968), 242–246.

This study examines the relationship between the performance of students in an academic setting, their scores on State Board Examinations, and their performance on the job as graduates.

56. Brown, Julia; Swift, Yvonne B.; and Oberman, Mary L. "Baccalaureate Students Image of Nursing: A Replication." *Nursing Research*, Vol. 23, No. 1 (January-February 1974), 53–59.

This investigation, conducted in an Oregon baccalaureate nursing program, is a replication of the Davis and Olesen study conducted in California 10 years prior. Personal values and perceptions of nursing of 17 faculty and 75 students are studied. Implications for nursing are discussed.

57. Brown, Mary Louise. "Factors Related to Job Satisfactions of Nurses Working in Occupational Health." *Occupational Health*, Vol. 19 (March-April 1967), 85–90.

The study presents the highlights of the data from the analysis of the comments made by 1,640 occupational (industrial) health nurses. Included is information on the nurses' age, educational background, marital status and professional ex-

perience, as well as the location and circumstances of their present job.

58. Brown, R. G. S. and Stones, R. W. H. "Men Who Come into Nursing, I." *Nursing Times,* Vol. 66 (October 15, 1970), 153–155.

The factors associated with successful qualification, attrition, and career intentions of 593 male nursing students in England are studied. Part I includes partial findings.

59. Brown, R. G. S. and Stones, R. W. H. "Men Who Come Into Nursing, II." *Nursing Times,* Vol. 66, (October 22, 1970), 157–159.

The factors associated with successful qualification, attrition, and career intentions of 593 male nursing students in England are studied. Part II is a continuation of findings.

60. Brown, R. G. S. and Stones, R. W. H. "The Decision to Nurse: A Study of Male Recruits." *Nursing Times,* Vol. 67 (March 25, 1971), 45–47.

The factors associated with successful qualification, attrition, and career intentions of 593 male nursing students in England are studied and findings concluded.

61. Brunclik, Helen and Thurston, John. "Nursing Student Attrition." *Nursing Outlook,* Vol. 13, No. 11 (November 1965), 57–59.

Recommendations made by the authors to help alleviate student attrition include: 1) focusing attention and research on those associated factors which are most amenable to constructive change; 2) focusing increased attention on motivation toward nursing personality and social factors; and 3) devoting increased attention to development of psychological devices designed to enhance faculty members' understanding of student personality and adjustment difficulties.

62. Brunclik, Helen; Thurston, John R.; and Feldhusen, John. "The Empathy Inventory." *Nursing Outlook,* Vol. 5, No. 6 (June 1967), 42–45.

Findings of the standardization phase of the Empathy Inventory suggest that "the nursing faculty members as a group are no more adept in judging the view which would be taken by a nursing student than people who are not even associated with a nursing program . . . . These results should be regarded as tentative and subject to verification with other kinds of nonprofessional groups."

63. Bullough, Bonnie. "Is the Nurse Practitioner Role a Source of Increased Work Satisfaction?" *Nursing Research,* Vol. 23, No. 1 (January-February 1974), 14–19.

This study seeks to determine whether nurses in the "extended roles" will find more intrinsic job satisfaction than those nurses in the traditional nursing role.

64. Bullough, Bonnie and Sparks, Colleen. "Baccalaureate Vs. Associate Degree Nurses: The Care-Cure Dichotomy." *Nursing Outlook,* Vol. 23, No. 11 (November 1975), 688–692.

A body of sociological and nursing theory holds that there are two basic orientations to the nursing role: one focused on caring for patients and the other on curing their illnesses. This study is conducted to determine if it is possible to identify these two orientations empirically and see if they are actually linked to the type of educational program.

65. Burgess, Michael M. and Duffey, Margery. "The Prediction of Success in a Collegiate Program of Nursing." *Nursing Research,* Vol. 18, No. 1 (January-February 1969), 68–72.

This study is aimed at systematically investigating the relationship between selected predictor variables and grade point averages in a collegiate program of nursing, and determining whether initially significant predictors will survive the test of cross-validation.

66. Burgess, M. M.; Duffey, Margery; and Temple, Frances G. "Two Studies of

Prediction of Success in a Collegiate Program of Nursing." *Nursing Research*, Vol. 21, No. 4 (July-August 1972), 357–366.

These second and third studies in a series are aimed at systematic investigation of the relationship between selected predictor variables and grade point average in a collegiate program of nursing.

67. Burton, D. A. "The Selection of Nurses by Discriminant Analysis." *International Journal of Nursing Studies*, Vol. 9, No. 2 (1972), 77–84.

Successful and unsuccessful nursing student groups are compared by Discriminant Analysis, a multivariate technique which maximizes the use of information and provides a set of coefficients that best predict the allocation of a person to the appropriate group. On available evidence, the Discriminant Function in this population appears "to satisfactorily predict nursing success to a degree which would be sufficient to justify its use at least as an adjunct to the traditional methods of selection."

68. Calamari, Sister Dolores. "Factors that Influence Evaluation Conferences in Clinical Experience." *Journal of Nursing Education*, Vol. 7 (November 1968), 11–14.

This study is an attempt to identify the factors in an evaluation conference that may either hinder or promote the professional growth of nursing students.

69. Casella, Carmine. "Need Hierarchies Among Nursing and Non-nursing College Students." *Nursing Research*, Vol. 17, No. 3 (May-June 1968), 273–275.

The Edwards Personal Preference Schedule is used to test significant personality differences between 97 female college students aspiring to enter nursing as a profession and 125 female students choosing other professions.

70. Chioni, Rose Marie and Panicucci, Carol. "Tomorrow's Nurse Practitioners." *Nursing Outlook*, Vol. 18 (February 1970), 32–35.

This article describes the first stage of the development of a new baccalaureate curriculum at the School of Nursing of the University of Wisconsin-Madison. The purpose is to define reasonable hypotheses in relation to the roles and functions of professional nursing in the future, the essential elements constituting that role, the kinds of teaching-learning experiences necessary to its development, and the place of the teacher in learning.

71. Chioni, Rose Marie and Schoen, Eugenia. "Preparing Tomorrow's Nurse Practitioner." *Nursing Outlook*, Vol. 18 (October 1970), 50–53.

A curriculum model is described to prepare the baccalaureate graduate for practice. The curriculum consists of four major components: general education, nursing practice, health services, and electives. The cognitive framework, the concept-based approach in the development of content and the sequencing of learning activities are described.

72. Chissom, Brad S. and Lanier, Doris. "Prediction of First Quarter Freshman GPA Using SAT Scores and High School Grades." *Educational and Psychological Measurement*, Vol. 35 (1975), 461–463.

This study attempts to determine the validity of students' SAT scores and HSGPA (high school grade point average) as predictors of freshman course grades and overall college grade point average (CGPA).

73. Christman, Norma J. "Clinical Performance of Baccalaureate Graduates." *Nursing Outlook*, Vol. 19 (January 1971), 54–56.

The purpose of this study is to determine the effect of the functional and unit management patient care assignment settings on the level of performance of baccalaureate graduate nurses.

74. Cleland, Virginia. "Sex Discrimination: Nursing's Most Pervasive Problem." *American Journal of Nursing*, Vol. 71 (August 1971), 1542–1547.

The socialization of little girls, the author believes, has helped to lead to the dilemma of male domination in the profession of nursing. Cleland believes that discrimination can be attacked, but must start by removing the social constraints of the conventional family structure and the professional structure.

75. Cleland, Virginia S. "The Effect of Stress on Performance." *Nursing Research*, Vol. 14, No. 4 (Fall 1965), 292–298.

Nursing test performance of professional registered nurses under conditions of graduated levels of situational stressors is measured to determine the relationship between the two variables.

76. Cleland, Virginia; Bellinger, Arnold; Shea, Fredericka; and McLain, Sister Rosemary. "Decision to Reactivate Nursing Career." *Nursing Research*, Vol. 19, No. 5 (September-October 1970), 446–452.

The purpose is to learn more about factors influencing the decision of married nurses to reactivate their nursing careers and to improve the power to predict future employment patterns of married nurses.

77. Cleland, Virginia and Sulkowski, Mary Lee. *Social Psychological Factors Relating to the Employment of Nurses.* Washington, D.C.: U.S. Government Printing Office, 1972. (DHEW Pub. No. 73–434).

The article discusses the effect of socialization (primary and secondary) of women on nurses and the nursing profession.

78. Coe, Charlotte R. "The Relative Importance of Selected Educational Objectives in Nursing." *Nursing Research*, Vol. 16, No. 2 (Spring 1967), 141–145.

Four groups of nurses are surveyed: staff, supervisors, graduates, and faculty. They identify selected objectives of behaviors necessary to the practice of professional nursing and their relative importance.

79. Coe, Rodney M. "Self-Conception and Professional Training." *Nursing Research*, Vol. 14, No. 1 (Winter 1965), 49–52.

This study assesses self-attitudes of freshmen nursing students in a school of nursing at a large midwestern general hospital by means of an unstructured instrument which required respondents to answer "Who am I" with up to 20 different statements.

80. Cohen, Helen and Gesner, F. Pauline. "Dropouts and Failures: A Preventive Program." *Nursing Outlook*, Vol. 20, No. 11, (1972), 723–725.

A diploma school of nursing initiates a program aimed at ameliorating students' emotional problems and remedying their basic reading and math deficiencies via crisis intervention, remedial skills tutoring, and motivational or achievement group meetings.

81. Cohen, Stuart J.; Trehub, Arnold; and Morrison, Frank G. "Edwards Personal Preference Profiles of Psychiatric Nurses." *Nursing Research*, Vol. 14, No. 4 (Fall 1965), 318–321.

The Edwards Personal Preference Schedule is used in this study to allow corroboration of the previous findings with nurses, and to relate these findings to supervisors' ratings of level of job performance.

82. Colavecchio, Ruth; Tescher, Barbara; and Scalzi, Cynthia. "A Clinical Ladder for Nursing Practice." *Journal of Nursing Administration*, Vol. 4 (September-October 1974), 54–58.

The authors discuss the clinical ladder concept of appointment and promotion for registered nurses employed by the nursing services of the University of California Health Care Facilities. The system, a behaviorally stated clinical series of four levels,

was developed so that clinical competence, knowledge, and performance could be rewarded intrinsically and extrinsically.

83. Collins, Doris L. and Joel, Lucille A. "The Image of Nursing Is Not Changing." *Nursing Outlook,* Vol. 19, No. 7 (July 1971), 456–459.

Two-hundred and thirty-one baccalaureate nursing students (at all levels) are surveyed to obtain their perceptions of their educational experiences in nursing.

84. Conant, Lucy H. "Closing the Practice-Theory Gap." *Nursing Outlook,* Vol. 15, No. 11 (November 1967), 37–39.

The author emphasizes the need in nursing for both theory and practice, and for meshing the two together. A scientific basis for nursing practice needs both kinds of knowledge—that obtained from experience and that gained from the intellect. Sometimes underestimated is the contribution the nurse practitioner can make in pinpointing areas for research and corroborating theory.

85. Connelly, Tom Jr. "Nursing Career Commitment." *Hospitals,* Vol. 44 (August 16, 1970), 142, 143, 146, 148, 150.

The purpose of this project is to provide indicators of career motivation for the use of recruiters and research investigators in the area of health manpower.

86. Cordiner, Constance M. and Hall, David. "The Use of the Motivational Analysis Test in the Selection of Scottish Nursing Students." *Nursing Research,* Vol. 20, No. 4 (July-August 1971), 357-362.

It is necessary for professional and economic reasons to investigate methods of student selection in an attempt to improve them so that those students who are selected will be more likely to complete the course. This study uses the Motivational Analysis Test, an objective test, for investigating this hypothesis.

87. Corwin, Ronald G. "The Professional Employee: A Study of Conflict in Nursing Roles." *Social Interaction and Patient Care,* ed. James K. Skipper, Jr. and Robert C. Leonard. Philadelphia: J.B. Lippincott Co., 1965, 341-356.

It is apparent that there is not one but at least three dominant conceptions of nursing: an office, a profession, and a calling. These provide alternative identities for the nurse who is at the same time a hospital employee (or a bureaucrat), a responsible independent professional and a public servant (when in a religious or humanitarian context). There is reason to believe that the three ideal conceptions of nursing involve incompatible demands.

88. Costello, C. G. "Attitudes of Nurses To Nursing." *Canadian Nurse,* Vol. 63, (June 1967), 42-44.

This article is an overview of seven studies, comparing nurses with female college graduates, using the Edwards Personal Preference Schedule.

89. Costello, D. E. "A Study of Student Withdrawal in Associate Degree Nursing Programs." Bethelehem, Pennsylvania Lehigh University, 1973. *Dissertation Abstracts International,* Vol. 34, (May 1974), 6893-A.

Students in three associate degree nursing schools in Pennsylvania community colleges are studied in a discriminate analysis using admissions criteria to predict whether or not they would continue in their programs after the end of the second semester.

90. Croog, Sydney; Caudill, William; and Blumen, Jean L. "Career Decisions of Student Nurses in Japan." *The Journal of Nursing Education,* Vol. 5, No. 1 (January 1966), 3-6, 20, 21, 23-27.

This is a report on some characteristics of a population of Japanese student nurses at two distinguished schools of nursing in Japan. It describes some of the influences that affect basic career decisions of student nurses in an industrialized, non-

Western country and attempts to clarify some of the elements that may shape the subsequent careers of these nurses.

91. Cross, K. W. "Survey of Student Nurse Wastage at 24 General Nurse Training Schools." *International Journal of Nursing Studies*, Vol. 5 (1968), 221-229.

Entrants to nurse training schools in the Birmingham (England) region in 1955 and 1956 are examined as to age at entry, education received, and previous nursing experience in relation to the outcome of training; and wastage rates for all hospitals in the region are calculated.

92. Curriculum Subcommittee on Rating Scales, University of Arizona College of Nursing, Tucson. "Let's Examine —A Method of Developing Performance Rating Scale." *Nursing Outlook*, Vol. 18, No. 10 (October 1970), 57.

This curriculum subcommittee report suggests a 14-step method for development of a student performance scale in determining successful mastery of educational experiences.

93. Davis, Anne J. "Self-Concept, Occupational Role Expectations, and Occupational Choice in Nursing and Social Work." *Participants and Patterns in Higher Education: Research and Reflections.* eds. Heiss, Ann; Mixer, Joseph; and Paltridge, James. University of California, Berkeley; The Program in Higher Education, School of Education, 1973, 217–228.

This study explores the differences in the self-concept and occupational role expectations of women students who had chosen nursing and social work as their vocations.

94. Debarbrie, Margaret Anne Brown. "Factors Associated With the Prediction of Success in an Educational Program for Licensed Vocational Nurses." *Dissertation Abstracts International*, Vol. 33 (1973), 3372-A.

The interrelationships of both cognitive and noncognitive instruments with performance in an educational setting are investigated in an attempt to answer questions concerned with prediction of success, the effect of success upon the self-concept, and ethnic differences as they relate to performance.

95. DeChow, Georgeen H. "Preparing the Technical Nurse Practitioner." *Journal of Nursing Education*, Vol. 9, No. 3 (August 1970), 2-4.

The technical nurse practitioner is described in relation to her competencies as differentiated from the competencies of the professional nurse. She is described as being technique-oriented and prepared to deal with common, recurring nursing problems, standardized nursing actions, and medically delegated techniques and interventions that yield predictable results.

96. DeFriese, G. H. "Hospital Social Structure, The Professional Nurse, and Patient Care: A Study of Alienation from the Work-Role." Lexington, Kentucky, University of Kentucky, 1967. *Dissertation Abstracts International*, Vol. 30 (November 1969), 2176-2177-A.

The nature of alienation from work as a sociological phenomenon is conceptualized, and the notion of alienation from work in its relationship to the quality of work performance is examined by virtue of this study.

97. DeLora, Jack R. and Moses, Dorothy V. "Specialty Preferences and Characteristics of Nursing Students in Baccalaureate Programs." *Nursing Research*, Vol. 18, No 2 (March-April 1969), 137-144.

Nursing specialty preferences of college nursing students are determined and an attempt is made to establish statistically significant variables predictive of such choices.

98. Dietz, Margaret R. "A Study of Self-Concept of Diploma Nursing School Students." Pittsburgh, Pennsylvania: University of Pittsburgh, 1973. *Dis-*

*sertation Abstracts International,* Vol. 34 (February 1974), 3878-B.

The problem of the study is to determine whether the self-concept scores of freshmen and senior nursing students from five diploma schools of nursing are significantly different.

99. Dolan, Margaret B. "More Nurses: Better Nursing." *International Nursing Review,* Vol. 17, No. 4 (1970), 337-344.

The statistics describing the nurse manpower force in the past and in the present are discussed and projected into the future. Ways in which the author feels society could provide for more nurses and retain them in employment for longer periods of time, and the rising status of nursing as a profession are stated.

100. Dowaliby, F. J. and Schumer, H. "Teacher-Centered Versus Student-Centered Mode of College Classroom Instruction as Related to Manifest Anxiety." *American Psychological Association Proceedings,* Vol. 6, Part 2 (1971), 541, 542.

Hypothesis: the amount of anxiety a student manifests would influence his performance. High anxiety persons would do better in an academic center of teacher-centered mode. Low anxiety persons would do better in student-centered mode of instruction. Results support the hypothesis.

101. Drew, David E. and Astin, Alexander. "Undergraduate Aspirations: A Test of Several Theories." *American Journal of Sociology,* Vol. 77, No. 6 (May 1972), 1151-1164.

Two significant sociological theories which have been evoked in research about undergraduate aspirations are tested. The data, based on a national sample of students, contain some key measurements which had been missing from previous studies, as well as a series of additional control variables. In general, relative-deprivation theory receives strong support; environmental-press theory receives equivocal support. However, the results vary as a function of the particular kind of aspiration under consideration. These findings support the contention that a complete theoretical model should allow for the simultaneous operation of both theories in a complex pattern rather than forcing a choice between the two.

102. Dubs, Regina. "Comparison of Student Achievement With Performance Rating of Graduates and State Board Examination Scores." *Nursing Research,* Vol. 24, No. 1 (January-February 1975), 59-63.

Relationships Between 1971 diploma nursing graduates' on-the-job performances, their achievements as students in nursing school, and their State Board scores are examined via a questionnaire composed of items derived from school curriculum objectives.

103. Dunn, Margaret A. "Development of an Instrument to Measure Nursing Performance." *Nursing Research,* Vol. 19, No. 6 (November-December 1970), 502-510.

The purpose of this study is the development and testing of an objective instrument for the analysis of nursing performance in the clinical setting. The instrument is developed by task analysis of five nursing procedures.

104. Dunteman, George H. "Validities of the Female Form of the SVIB Occupational Therapy, Laboratory Technology, and Nursing Keys." *The Journal of Experimental Education,* Vol. 35, No. 4 (Summer 1967), 53-57.

The Strong Vocational Interest Blank for Women is administered to female students enrolled in nursing, medical technology, occupational therapy, and nonhealth-related professional courses to determine if the different groups can be distinguished from each other on the SVIB scales designed for each group.

105. Durham, Robert. "How to Evaluate Nursing Performance." *Hospital Management*, Vol. 109 (May 1970), 24.

A systematic approach taken to develop a tool to evaluate nursing performance in a Tennessee hospital is described.

106. Dustan, Laura C. "Institutional Cooperation as a Way to Increase Opportunities for Baccalaureate Nursing Education." *Participants and Patterns in Higher Education: Research and Reflections.* Eds. Heiss, Ann; Mixer, Joseph; and Paltridge, James. University of California, Berkeley: The Program in Higher Education, 1973.

Within nursing there is a great demand for the professional, but also for persons prepared at technical and vocational levels. The challenge facing nursing is to develop a rational educational system which will provide preparatory programs designed for great variations in levels of talent and ability to accomodate the range of responsibilities which nursing encompasses.

107. Dyer, Elaine D. "Nurse Performance Description: Criteria, Predictors, and Correlates." *ANA Fifth Nursing Research Conference*, Salt Lake City: University of Utah Press, 1967.

The influence of personal attributes or qualifications such as educational preparation, IQ, GPA, and experience, as well as the personality or typical modes of social interaction and the psychological climate or atmosphere of the ward are studied in relation to the on-the-job performance of 200 graduate nurses in four Utah hospitals.

108. Dyer, Elaine D.; Cope, Maxine J.; Monson, Mary Adele; and VanDrimmelen, Jennie B. "Can Job Performance be Predicted from Biographical, Personality, and Administrative Climate Inventories?" *Nursing Research*, Vol. 21, No. 4 (July-August 1972), 294-301.

Personal history, personality, and administrative climate perceptions of a national sample of registered nurses who received high performance ratings from their supervisors are evaluated by the authors.

109. Dyer, Elaine D.; Monson, Mary A.; and VanDrimmelen, Jennie B. "What are the Relationships of Quality Patient Care to Nurses' Performance, Biographical and Personality Variables?" *Psychological Reports*, Vol. 36 (1975), 255-266.

Relationships among measures of quality patient care, nurse performance, biographical and personality data are studied for 387 staff nurses from 60 wards of 7 VA hospitals.

110. Edwards, Carl and Gribble, Gretta. "How Students Perceive It." *American Journal of Nursing*, Vol. 69, No. 6 (June 1969), 1223-1225.

Perspectives of 473 students of nursing attending 20 different schools of nursing are explored as to their life aspirations, satisfactions, and desired life styles.

111. Elton, Charles F. and Rose, Harrietta. "Aspirations: Fulfilled or Forgotten?" *Nursing Research*, Vol. 19, No. 1 (January-February 1970), 72–75.

The ACT, OPI (Omnibus Personality Inventory), and self-reported achievement in various school subjects are used in this study to examine the relevance of various measures in predicting academic status after 1 year of a prenursing baccalaureate program.

112. Felton, Gary S. "Use of the MMPI Underachievement Scale as an Aid in Counseling Academic Low Achievers in College." *Psychological Reports*, Vol. 32 (February 1973), 151-157.

This study involves administering the Underachievement Scale of the MMPI to high academic achievers in college and to low academic achievers who had dropped out of college; scores are compared to determine whether the scale could differentiate the two groups.

113. Felton, Geraldene. "Increasing the Quality of Nursing Care by Introducing

the Concept of Primary Nursing: A Model Project." *Nursing Research*, Vol. 24, No. 1 (January-February 1975), 27-32.

Nursing performance on an experimental unit, using primary care nursing, and on a control unit, using team and/or functional nursing, is measured by the Slater Nursing Competencies Scale, the Quality Patient Care Scale, and the Phaneuf Nursing Audit.

114. Finegan, A. "The Predictive Value of Measured Motivational Factors in Evaluating Nurse Candidates." *Psychiatric Quarterly Supplement*, Vol. 41 (1967), 77–85.

This research deals with checking on the usefulness of the Personal Values Inventory for advising and counseling purposes with diploma nursing students.

115. Flint, Robert T. and Spensley, Karen C. "Recent Issues in Nursing Manpower: A Review." *Nursing Research*, Vol. 18, No. 3 (May-June 1969), 217–229.

A literature review covering the years 1956–1968 is reported. The text organizes the nearly 400 articles into the following categories: 1) Overview: Summaries and Projections; 2) Analytical Studies; 3) Sociological and Psychological Studies; 4) Education; 5) Refresher Training; 6) Recruitment; 7) Utilization; 8) Supportive Personnel; 9) Innovations; and 10) Attrition and Turnover.

116. Frank, Edwina Dollie. "Images of Nursing Among College Freshmen Women in New Orleans." New York, N.Y.: Teachers College, Columbia University, 1969. *Dissertation Abstracts International*, Vol. 31 (January 1971), 4155–4156–B.

The major purpose of the study is to determine the extent to which the vocational image of nursing held by college freshmen women is consistent with the vocational image advanced by the profession.

117. Frejlach, Grace and Corcoran, Sheila. "Measuring Clinical Performance." *Nursing Outlook*, Vol. 19, No. 4 (April 1971), 270, 271.

This article discusses a laboratory approach to assessing students' clinical skills. At the College of St. Catherine Nursing Department in St. Paul, Minnesota, a testing method was devised using multimedia approaches rather than a pencil-and-paper test. The method and the advantages of the method from the teacher and the student point of view are discussed.

118. Friedman, Walter. "Changes in Diploma Nursing Students' Perceptions of A Good Nurse." *Nursing Forum*, Vol. 10, No. 1 (1971), 72–79.

The study investigates the changes diploma nursing students undergo in their view of the nursing role as they progress through school.

119. Friery, Catherine M. *Identification of Criteria for Development of Assessment Measures in Nursing Education Programs*. Ann Arbor, Michigan: Xerox University Microfilms, 1975.

The purpose of this research is to provide a base for the development of criterion-referenced achievement measures for use nationally in nursing education programs by identifying the currently expected behavioral objectives of the programs and the relative importance of each objective to safe patient care and other nurse performance responsibilities.

120. Garner, Grayce Scott and Lowe, Alfred. "Group Dynamics in Graduate Education of Nurses." *Nursing Research*, Vol. 14, No. 2 (Spring 1965), 146–150.

Graduate nursing students specializing in psychiatric nursing and maternal and child care are exposed to a didactic group experience, on the assumption that this would contribute to their professional development. An attempt to evaluate the experience is described, together with tentative results which tend to con-

firm the usefulness of this method for teaching.

121. Garvin, Bonnie. "Curriculum Evaluation Data Report No. 5." The Ohio State University: Columbus, Ohio: October 1974. (Mimeograph).

Data include values (Allport-Vernon-Lindzey Study of Values) of entering men and women students in 1971, 1972, and 1973. The data are generated from Curriculum Evaluation Data that were collected each autumn quarter since 1971.

122. Garvin, Bonnie. "Curriculum Evaluation Data Report No. 6." The Ohio State University: Columbus, Ohio: October 1974. (Mimeograph).

Data include demographic variables of entering men and women students in 1971, 1972, and 1973.

123. Geelhaar, H. F., Jr. "Interrelationship of Areas of Educational Achievement in Nursing School to Success and Professional Interests of Nurses in Hospital Clinical Nursing Areas." Washington, D.C.: Catholic University of America, 1969. *Dissertation Abstracts International*, Vol. 30 (December 1969), 2376–A.

The purpose of this dissertation is to determine if information may be obtained which will aid in logical placement of graduating nurses. To this end investigation was made of educational records to see if patterns indicating occupational area exist.

124. Germain, Lucy D. "Needed: Changes in Hospitals to Utilize the New Practitioner in Nursing." *The Journal of Nursing Education*, Vol. 8, No. 3 (August 1969), 25–29.

The delineation of the proper setting for the new practitioner in nursing is based on: 1) what the new graduate brings to the job; 2) the desires of the new graduate to function within the policies of nursing service (and to participate in any future changes); and 3) the environment created by the hospital.

125. Gerstein, Alvin. "Development of a Selection Program for Nursing Candidates." *Nursing Research*, Vol. 14, No. 3 (Summer 1965), 254–257.

This study examines the efficacy of the Otis Test of Mental Ability, the IPAT, the Diagnostic Reading Survey, and the Strong Vocational Interest Blank as means of selecting nursing student candidates for a diploma program.

126. Giles, Wayne E. "The Adult Student in Higher Education." *Nursing Digest*, Vol. 2, No. 2 (February 1974), 90–95.

The author explains the objectives, basic assumptions, and the learning plan of a nontraditional degree program. The program deals with adult students who wish to continue their education in a college setting.

127. Girona, Ricardo. "The Semantic Differential as a Tool in Predicting the Potential Effectiveness of Student Nurses." Gainesville, Florida: The University of Florida, 1969. *Dissertation Abstracts International*, Vol. 31 (July 1970), 220–A.

This research is undertaken to determine whether a semantic differential would succeed in predicting the behavior of a sample of 21 student nurses.

128. Good, Shirley, "Considerations for Nurse Recruitment." *Canadian Nurse*, Vol. 63 (December 1967), 31, 32.

The author maintains that nurse recruitment programs should be presented differently for each of three different audiences: preteen, early teen, and mid-teen groups. Progressively sophisticated materials and approaches should be used for these groups. The programs should appeal to as many of the senses as possible, relevant to the particular age group. Programs should be presented to both sexes at fairly specific intervals.

129. Gordon, R. E.; Lindeman, R. H.; and Gordon, Katherine K. "Some Psychological and Biochemical Correlates of College Achievement." *Journal American College Health Associa-*

*tion*, Vol. 15 (April 1967), 326–331.

The study is conducted to determine the relationships between biographical, psychological, and certain physiological characteristics of the student and his academic achievement, health, and campus behavior.

130. Gore, Bill Wes. "The Multivariate Prediction of College Grade Point Averages and State Board Examination Scores in Selected Mississippi Associate Degree Nursing Programs." Hattiesburg, Mississippi: University of Southern Mississippi, 1973. *Dissertation Abstracts International,* Vol. 34 (January 1974), 3325–B.

This study is primarily concerned with the formulating of prediction equations which could be used with three associate degree programs in nursing in Mississippi.

131. Gortner, Susan R. "Nursing Majors in Twelve Western Universities: A Comparison of Registered Nurse Students and Basic Senior Students." *Nursing Research,* Vol. 17, No. 2 (March-April 1968), 121–129.

This study attempted to differentiate the RN students from the senior nursing students in the basic collegiate program by determining each group's dominant values, outstanding personality characteristics, reasons for entering college and choosing nursing as a career, goals and expectations regarding professional and liberal education, past satisfying and stressful work experiences, and socioeconomic backgrounds.

132. Gortner, Susan R. "Students and Environments for Learning in Nursing." *Participants and Patterns in Higher Education: Research and Reflections.* Eds. Heiss, Ann; Mixer, Joseph; and Paltridge, James. University of California, Berkeley: The Program in Higher Education, 1973.

Twelve Western university nursing programs reveal differential patterns of student selection and retention, as inferred by the measured intellective and nonintellective characteristics of nursing students. These differences suggest different climates for learning in professional schools that should be confirmed through research.

133. Goza, John T. "An Investigation of the Academic Potential, Academic Achievement, and Personality of Participants in an Associate Degree Nursing Program. East Texas State University: Texas, 1970.

The purpose of this study is to develop profiles of an associate degree nursing class, based on academic potential, academic achievement, and personality. Profiles are made for the following groups: 1) dropouts; 2) graduates; 3) graduates who passed the State Board Test Pool Examination on the initial attempt; 4) graduates who received a favorable work performance evaluation; 5) graduates who did not receive a favorable work performance evaluation; and 6) the total population.

134. Gradel, Dorothy V. "The Relationships Between Students' Needs—Environmental Press and Achievement in Nursing Education of Students in Selected Associate Degree Nursing Education Programs in Washington State." Washington State University, 1965. *Dissertation Abstracts International,* Vol. 26 (1966), 321–01.

This study deals with assessing the relationships between students' needs and the college environmental press, as they relate to achievement in nursing education.

135. Gross, Paul A. and Brown, Robert A. "Contrasting Job Satisfaction Elements Shown for RN's and LPN's." *Hospitals, J.A.H.A.,* Vol. 41 (February 16, 1967), 73–92.

The study explores the differences in certain psychological needs, personality traits, and values of RN's and LPN's, following with the premise that the better the administrator's understanding of his staff's

personal and occupational needs, the better he can perform his administrative responsibilities.

136. Gunter, Laurie M. "The Developing Nursing Student: Part I. A Study of Self-Actualizing Values." *Nursing Research*, Vol. 18, No. 1 (January-February 1969), 60–64.

The report describes results obtained from administering the Personal Orientation Inventory to the members of a sophomore nursing class, comparing the results with a female freshman college sample and a self-actualized sample, and relating these findings to theories of human development, particularly with regards to self-actualization values.

137. Gunter, Laurie M. "The Developing Nursing Student: Part II. Attitudes Toward Nursing as a Career." *Nursing Research*, Vol. 18, No. 2 (March-April 1969), 131–136.

The report describes sophomore nursing students' attitudes toward nursing as a career, obtained through the use of questionnaires. This includes general attitudes toward nursing as a career, comparing nursing education with education of other professional fields, thoughts and items considered important to being effective nurses, general statements about nurses, and the ideal job of a nurse.

138. Gunter, Laurie M. "The Developing Nursing Student: Part III. A Study of Self-Appraisals and Concerns Reported During the Sophomore Year." *Nursing Research*, Vol. 18, No. 3 (May-June 1969), 237–242.

The study describes some of the self-appraisals and concerns of a group of nursing students at the end of their sophomore year, relating the findings to previous studies, and discussing possible implications for nursing education.

139. Hadley, Betty Jo. "The Dynamic Inter-Actionist Concept of Role." *The Journal of Nursing Education*, Vol. 6, No. 2 (April 1967), 5–25.

The process of student nurse socialization, according to an interactionist's framework, is more than a matter of the simple learning of standard patterns of conformity. It is the simultaneous learning of the roles of self and others in interaction. It is learning to cope with the social systems in which one finds oneself, to take account of the relevant others in those systems, and learning to function with them. Conflict resolution need not be, as Corwin suggests, a matter of total abandonment of one or all the alternative roles.

140. Harms, Mary T. and McDonald, Frederick J. "The Teaching-Learning Process." *Nursing Outlook*, Vol. 14 (October 1966), 54–57.

This article, the last in a four-part series, describes the theoretical model of the learner which guided the faculty in selecting and developing teaching methods used in the recently adopted experimental curriculum at the University of California, San Francisco.

141. Harrington, Helen Ann and Theis, Charlotte E. "Institutional Factors Perceived by Baccalaureate Graduates as Influencing Their Performance as Staff Nurses." *Nursing Research*, Vol. 17, No. 3 (May-June 1968), 228–235.

Using the functions of professional nursing as identified by Simms, the perceptions of two groups of staff nurses with baccalaureate degrees are compared as to the influence of various institutional factors on their performance.

142. Harty, Margaret Brown. "The Assessment of Factors Relating to Attrition Among Selected Women Students." University of California, Berkeley, 1965. *Dissertation Abstracts International*, Vol. 26 (1965), 794–02.

This study is designed to investigate possible relationships which the concept of goal commitment, as evidenced by consistency of choice of major area of study and intent to

graduate, might have to the educational persistence of women students.

143. Harvey, Lillian H. "Educational Problems of Minority Group Nurses." *Nursing Outlook*, Vol. 18, No. 9 (September 1970), 48–50.

The author discusses problems of minority students in nursing, i.e., a deficit background in vital areas, differences in patterns to learning and approach to education, high standards imposed out of context on them without supporting behavioral mechanism and cultural acceptance, and anxiety resulting from perceived isolation and exclusion from major American culture and avenues of opportunity. She gives suggestions as to how nursing schools can facilitate education successfully with minority groups.

144. Hayter, Jean. "Follow-Up Study of Graduates of the University of Kentucky, College of Nursing, 1964–1968." *Nursing Research*, Vol. 20, No. 1 (January-February 1971), 55–60.

The study is carried out to determine the postgraduate vocational and educational activities and future plans of the graduates. The opinions of the graduates and those of their employers are also solicited concerning the adequacy of the graduates for their jobs.

145. Heidgerken, Loretta. "Nursing as a Career: Is it Relevant?" *American Journal of Nursing*, Vol. 69, No. 6 (June 1969), 1217–1222.

This report is a brief overview of past studies on career choice theories and factors affecting such choices generally not identified in the nursing literature. They are: 1) changing sex image of occupations; 2) health careers; 3) role models; 4) career information; 5) image of nursing; and 6) career stability.

146. Heidgerken, Loretta E. "Preference for a Teaching or Clinical Nursing Practice Career: Influence of Significant Others." *Nursing Research*, Vol. 19, No. 4 (July-August 1970), 292–302.

The study describes the influence of significant others on career preference for teaching or clinical nursing practice as perceived by nursing students at two career junctures. These junctures represented enrollment in a senior baccalaureate nursing program and in a graduate nursing program.

147. Heidgerken, Loretta. "Work Values and Career Preferences of Nurses for Teaching and Clinical Nursing Practice." *Nursing Research*, Vol. 19, No. 3 (May-June 1970), 219–223.

The study compare the work values of professional nurses who prefer a teaching career in nursing with those who prefer a career in clinical practice.

148. Heins, Margaret J. and Davis, Mariana. "A Second Chance." *Hospitals*, Vol. 46 (January 16, 1972), 74–78.

The authors discuss a 4-week summer program instituted for preparing high-risk students for success in a diploma school of nursing.

149. Highriter, Marion E. "Nurse Characteristics and Patient Progress." *Nursing Research*, Vol. 18, No. 6 (November-December 1969), 484–500.

This study is concerned with the nurse characteristics associated with the reduction of health needs of families receiving public health nursing service. The primary nurse characteristic which is investigated for its relationship to patient progress is the educational background of the nurse.

150. Hinichsen, James J. "Prediction of Grade Point Average from Estimated Study Behaviors." *Psychological Reports*, Vol. 31 (December 1972), 974.

In an assessment of the relations between test anxiety, study behavior, and academic performance it is found that self-reported study behaviors added significantly to personality measures and high school rank as predictors of grade point average.

151. Hobart, Charles W. and Fahlerg, Nancy. "The Measurement of Empathy." *American Journal of Sociology*, Vol.

LXX, No. 5 (March 1965), 595–603.

This article evaluates some of the major criticisms that have been made of predictive tests of empathy, and proposes a defensible predictive test of empathy.

152. Holdsworth, Janet N. "Vicarious Experience of Reading a Book in Changing Nursing Students' Attitudes." *Nursing Research*, Vol. 17, No. 2 (March-April 1968), 135–139.

Purpose is to determine if vicarious experiences of reading a book could influence attitudes of nursing students toward comatose patients as measured by an attitude scale constructed for this purpose.

153. Hover, Julie. "Diploma Vs. Degree Nurses: Are They Alike?" *Nursing Outlook*, Vol. 23, No. 11 (November 1975), 684–687.

This study reveals a few similarities between diploma and degree nurses, but also a larger number of differences, especially in relation to patient care preferences, professional attitudes, and career plans.

154. Hurka, S. J. "The Registered Nurse as a Professional Employee: A Study of Perceived Role Orientations." Seattle, Washington: University of Washington, 1970. *Dissertation Abstracts International*, Vol. 31 (January 1971), 3655–A.

The study examines the relationship between professional and bureaucratic role orientation; investigates the association between certain specified background variables and role orientations; and examines role orientation in relation to job and career satisfaction.

155. Hutcheson, John D., Jr.; Garland, Laretta M; and Prather, James E. "Toward Reducing Attrition in Baccalaureate Degree Nursing Programs: An Exploratory Study." *Nursing Research*, Vol. 22, No. 6 (November-December 1973), 530–533.

This investigation is undertaken in an attempt to begin to identify some of the causes of attrition in baccalaureate degree programs.

156. Iafolla, Mary Ann C. "Guidance in Nursing Education." *Journal of Nursing Education*, Vol. 8, No. 15 (January 1969), 15–22.

The author of this article takes issue with the nursing instructor's delegated guidance functions. She feels that it is too much of a burden to expect the nursing educators to accept full responsibility for the guidance of students. She elaborates on how she feels schools of nursing should tackle the problem of guidance for students.

157. James, Lawrence R.; Ellison, Robert L.; Fox, David G.; McDonald, Blair W.; and Taylor, Calvin W. "Biographical Information and the Identification of Nursing Talent." *Family-Centered Community Nursing: A Sociocultural Framework*. Eds. Reinhardt, Adina M. and Quinn, Mildred D. Saint Louis: C. V. Mosby Company, 1973.

The study is designed to investigate the potential effectiveness of a biographical inventory (BI) in the selection of recipients of USPHS fellowship grants. The study proceeds with an attempt to first construct valid scoring procedures (keys) to use with the BI [illegible] predict job performance in nursing for a sample of actively employed nurses. These keys are then used to score BI responses of nursing fellowship recipients, both active and terminated, in order to ascertain the effectiveness of the keys based on job performance in predicting graduate school performance and job performance following graduate school. Thus, it is possible to evaluate a biographical selection procedure, based on world-of-work performance, in predicting both success in graduate school and later performance as a nurse.

158. Jarratt, Virginia Reeves. "A Study of Conceptions of Autonomous Nursing Actions Appropriate for the Staff Nurse Role." *Health Sciences Ab-*

*stracts,* The University of Texas, 1967. 2009-B.

The purpose of this study is to investigate conceptions of autonomous nursing actions considered appropriate performance in the staff nurse role by the significant groups who influence the role concept. The sample includes senior nursing students and medical-surgical nurses, as well as randomly selected staff nurses, head nurses and supervisors, and physicians from the associated clinical facilities.

**159.** Jiobu, Robert M. and Pollis, Carol A. "Student Evaluations of Courses and Instructors." *American Sociologist,* Vol. 6, No. 4 (November 1971), 317–321.

Eighteen variables are analyzed to examine how they affect students' perceptions of courses and instructors, with the focus on student-perceiving learning, and overall evaluation of courses.

**160.** Johnson, Dale M. and Wilhite, Mary J. "Reliability and Validity of Subjective Evaluation of Baccalaureate Program Nursing Students." *Nursing Research,* Vol. 22, No. 3 (May-June 1973), 257–262.

The study is done to determine the validity and reliability of subjective and objective faculty evaluations of nursing students' potentials as successful graduate nurse practitioners.

**161.** Johnson, Dorothy E. "Competence in Practice: Technical and Professional." *Nursing Outlook,* Vol. 14, No. 10 (1966), 30–33.

This article offers a picture that differentiates a professional from a technical graduate nurse in order to supply nursing service administrators with precise information as to the potential competence of their nurse employees. Professional and technical educational programs and their products are compared along the dimensions of knowledge differences and skill differences. Despite the author's abstract style, the article's content is an informative resource for guidance counselors in directing prospective nursing students to the most suitable type of preparation.

162. Johnson, Richard W. and Leonard, Louise C. "Psychological Test Characteristics and Performance of Nursing Students." *Nursing Research,* Vol. 19, No. 2 (March-April 1970), 147–150.

The study is conducted to describe the psychological characteristics of students beginning the professional course sequence in a baccalaureate nursing program, and to determine the effectiveness of these characteristics in predicting theory and practice grades.

163. Johnson, Walter L. "Admission of Men and Ethnic Minorities to Schools of Nursing, 1971–1972." *Nursing Outlook,* Vol. 22, No. 1 (January 1974), 45–49.

The article presents a regional and State analysis of minority group admissions (men, black students, students of Spanish-speaking background, and American Indian or Oriental background) to RN and LPN/LVN schools of nursing in 1971–72.

164. Jones, Carolyn W. "Why Associate Degree Nursing Students Persist." *Nursing Research,* Vol. 24, No. 1 (January-February 1975), 57–59.

This research attempts to determine whether there was a statistically significant difference in certain measured personality factors of dropouts as compared with persisters in an associate degree nursing program.

165. Katzell, Mildred E. "Evaluation for Educational Mobility." *Nursing Outlook,* Vol. 21, No. 7 (July 1973), 453–456.

The author discusses the open curriculum in nursing. She states that there is a wide range of possibilities to be considered in theory and performance evaluation. A compromise between 1) a program in which students could be allowed to challenge for all credits needed to complete the program (through use of tests and

evaluation), and 2) a program in which there would be no testing because certain placement was categorically awarded to those with certain types of prior preparation, would probably provide the best solution.

166. Katzell, Mildred Engberg. "Expectations and Dropouts in Schools of Nursing." *Journal of Applied Psychology,* Vol. 52 (April 1968), 154–157.

A questionnaire was used as the instrument of choice to assess the expectations and experiences of stress and satisfaction of 1,852 first-year students in 43 schools of nursing.

167. Katzell, Mildred E. "Upward Mobility in Nursing." *Nursing Outlook,* Vol. 18, No. 9 (September 1970), 36–39.

The discussion revolves around the "open curriculum" in nursing education, i.e., a system which takes into account the different purposes of the various types of programs but recognizes common areas of achievement. Such a system permits student mobility in the light of ability, changing career goals, and changing aspirations. The use of proficiency tests, and steps taken to choose appropriate proficiency tests are also discussed.

168. Kelly, William L. "Psychological Prediction of Leadership in Nursing." *Nursing Research, Vol.* 23, No. 1 (January-February 1974), 38–42.

The MMPI, 16 PF, California Psychological Inventory, and the EPPS are examined for their discriminatory power to predict those RN's who were actually promoted within their employing agencies from those who were evaluated for promotion but not promoted.

169. King, Shirley P. "The Association of Selected Personality Characteristics With College Achievement." *Participants and Patterns in Higher Education: Research and Reflections.* Eds. Heiss, Ann; Mixer, Joseph; and Paltridge, James. University of California, Berkeley, The Program in Higher Education, 1973.

The hypotheses tested in this study are that "the achievement of grades is associated with an academic orientation, and that students with an intellectual orientation achieve lower grades than students with academic orientation."

170. Klahn, J. E. "Analysis of Selected Factors and Success of First-Year Student Nurses." Pullman, Washington: Washington State University, 1966. *Dissertation Abstracts International,* Vol. 27(A) (March 1967), 2888.

The study investigates appraised self-concept, ideal self-concept, need for change in environmental stimuli, and level of vocational interest as they relate to the success of first-year diploma nursing students.

171. Klahn, James E. "Self-Concept and Change-Seeking Need of First-Year Student Nurses." *Journal of Nursing Education,* Vol. 8 (April 1969), 11–16.

The author proposes that self-concept, image of one's ideal self, and one's change-seeking need might all play a crucial part in whether or not a student stays in a nursing program.

172. Klaus, David; Gosnell, Doris; Jacobs, Marchese; Reilly, Pamela; and Taylor, Judith. *Controlling Experience To Improve Nursing Proficiency: Background and Study Plan.* Reports No. 1, 2, 3, and 4. American Institutes for Research, Pittsburgh, Pennsylvania. 1966, 1967, 1968.

The study investigates the contribution of clinical experience to nursing proficiency and how it might be accomplished more efficiently, effectively, and economically. The investigators apply task analysis, performance requirements, and critical incident techniques to the definition of instructional objectives concerned with adequate patient care, the application of proficiency measurement techniques to the assessment of performance and the establishment of instructional standards, and the application of pro-

grammed instruction techniques to improve the value of clinical experience as a method of learning to provide effective nursing services.

173. Knopf, Lucille. *From Student to RN. A Report of the Nurse Career-Pattern Study*. Washington, D.C.: U.S. Government Printing Office. DHEW Publication No. (NIH) 72–130. 1972.

This report is the first of five to be done on a longitudinal study conducted to obtain definitive information about the biographical characteristics of nursing students, their occupational goals, and their reasons for choosing nursing as a career. The relation of these variables to the students' completion of the nursing program and their subsequent work in the nursing field is also examined.

174. Knopf, Lucille. *RN's One and Five Years After Graduation*. New York: National League for Nursing, (Publication No. 19–1535), 1975.

This report from the NLN's Nurse-Career Study describes a national cohort of 6,000 nurses 1 and 5 years after their graduation from diploma, associate degree, and baccalaureate programs. Statistics gathered by questionnaires are presented in narrative form and in 57 tables; includes information on marital status and children, characteristics of spouse, work status of respondents, clinical field, position, employer, patterns of employment, expectations of nursing, earnings, education since graduation, and professional activities. Attention is given to variables affecting work status, especially interruptions in employment and time out of labor force. Sections discuss the methodology, work patterns and a nursing career, factors affecting career patterns, and the nursing labor force. An appendix presents relevant data from previous aspects of the study.

175. Knopf, Lucille; Tate, Barbara L.; and Patrylow, Sarah. *Five Years After Graduation: Practical Nurses. Nurse Career-Pattern Study*. New York: National League for Nursing, 1970.

This report is the result of the fourth questionnaire sent in the long-range study of practical nurses and is part of the NLN's Nurse Career-Pattern Study. Previous portions of the investigation were carried out upon subjects' entrance into the nursing program, upon graduation, and 1 year after graduation.

176. Knudson, Eleanor Gray. "Public Health Nurses Interest in Occupational Advancement." *Nursing Research*, Vol. 17, No. 4 (July-August 1968), 327–335.

The study is undertaken to identify some of the factors which contribute toward or militate against public health nurses developing an interest in advancing into administrative positions within their field.

177. Komorita, Nori I. "Self-Concept Measures as Related to Achievement in Nursing Education." Detroit, Michigan: Wayne State University, 1972. *Dissertation Abstracts International*, Vol. 32 (June 1972), 6809–A.

An exploratory study based on self theory is conducted to determine the significance and relevance of the self-concept in nursing education.

178. Komorita, Nori I. "Students' Opinions Toward Methods of Guidance and Evaluation in Clinical Nursing." *Nursing Research*, Vol. 14, No. 2 (Spring 1965), 163–167.

Two teaching methods, guidance and evaluation, are the concern of this paper. Using an open-ended questionnaire, students are asked to list what they like and dislike about teaching methods in clinical guidance and evaluation conference and to rate the effectiveness of the methods.

179. Kovacs, Alberta Rose. "Predicting Success in Three Selected Collegiate Schools of Nursing." *Dissertation Abstracts International*, Vol 31, No. 1 (1970).

This study investigates how the administrator of a collegiate school of nursing might use measures of intelligence, rank in high school class, and performance on the SAT to predict success in a baccalaureate nursing program and to predict performance on the State Board Examination.

180. Kovacs, Alberta R. "Uniform Minimum Admission Standards." *Nursing Outlook*, Vol. 18, No. 10 (October 1970), 54–56.

The aim of this study is to determine how many baccalaureate nursing students who would not have been admitted initially to their schools had the schools set "cut-off scores" at 500 for the verbal and mathematical components of the SAT, and 1,000 for their combined score.

181. Krall, Vita. "Personality Factors in Nursing School Success and Failure." *Nursing Research*, Vol. 19, No. 3 (May-June 1970), 265–268.

This study investigates the hypothesis that an integrated self-concept and a healthy concept of role is a prerequisite for adequate functioning in nursing.

182. Kramer, Marlene. "Collegiate Graduate Nurses in Medical Center Hospitals: Mutual Challenge or Duel." *Nursing Research*, Vol. 18, No. 3 (May-June 1969), 196–210.

The study investigates the relationship between the type of bureaucratic structure of medical center hospitals (e.g., decentralized decision-making structure, separation of managerial and nursing functions, emphasis and reward given for clinical role performance and educational preparation) and the job satisfaction of its baccalaureate nurses.

183. Kramer, Marlene. "Comparative Study of Characteristics, Attitudes, and Opinions of Neophyte British and American Nurses." *International Journal of Nursing Studies*, Vol. 4 (December 1967), 281–294.

This comparative study of 79 American and 27 British neophyte nurses utilizes a questionnaire (Five Statement "Who am I?") and interview techniques to assess similarities and differences in attitudes, opinions, and demographic characteristics of new graduate nurses. A time series design is used to obtain data.

184. Kramer, Marlene. *Reality Shock*. St. Louis: C. V. Mosby Company, 1974.

Something can be done about the reality shock experienced by nurses on their first job. Some of our best nurses do not have to flee from nursing or from nursing practice. The nurses of tomorrow can constructively manage the inevitable conflict between work and school values and make the contributions to improved patient care that are expected and hoped for from them. These are some of the messages that can be drawn from the results of the study reported in this book.

185. Kramer, Marlene. "Role Conceptions of Baccalaureate Nurses and Success in Hospital Nursing." *Nursing Research*, Vol. 19, No. 5 (September-October 1970), 428–439.

A study is made of baccalaureate nursing graduates in practice in hospitals for at least 9 months, determining the relationship of their professional and bureaucratic role conceptions, role deprivations, and their success in nursing (success and its degree as defined by their directors of nursing).

186. Kramer, Marlene. "The New Graduate Speaks Again." *American Journal of Nursing*, Vol. 69, No. 9 (September 1969), 1903–1907.

A study is made on the initial work experiences and feelings about nursing of 79 nurse subjects, tested shortly before graduation, again 3 months after beginning work, and then 6 months after employment. Two years after graduation a followup study was done on all original participants, the major implication

being that with continued employment, nurses who initially held high professional role conceptions show a significant decline in their values.

187. Kramer, Marlene and Baker, Constance. "The Exodus: Can We Prevent It?" *Journal of Nursing Administration*, Vol. 1 (May-June 1971), 15–30.

This article presents an analysis of the role conceptions and degree of success of 63 nurses who dropped out of nursing, from a nationwide sample of 220 baccalaureate nurses working in medical centers.

188. Kramer, Marlene; Hinshaw, Ada Sue; Patterson, Rella Beth; Taylor, Margaret; and Wallace, Margaret. "Effect of Teacher and Situational Variables on Student Achievement." *Nursing Research*, Vol. 17, No. 1 (January-February 1968), 10–18.

The effects of nursing instructor clinical content expertise, continuity of instructor, and contiguity of instruction are investigated as they relate to nursing student achievement.

189. Kramer, Marlene; McDonnell, Catherine; and Reed, John L. "Self-Actualization and Role Adaptation of Baccalaureate Degree Nurses." *Nursing Research*, Vol. 21, No. 2 (March-April 1972), 111–123.

The ability of the baccalaureate degree nurse to bring opposites (professional and bureaucratic role conceptions) into a positive relationship is investigated in this study which focuses on self-actualization.

190. Krueger, Janelle C. "The Education and Utilization of Nurses: A Paradox." *Nursing Outlook*, Vol. 19, No. 10 (October 1971), 676–679.

It is attempted in this investigation to determine whether the utilization of nurses in a sample is related closely to their educational preparation.

191. Lawson, J. R. and Henley, G. H. "Trait Ratings of Student Nurses." *Psychological Reports*, Vol. 20 (1967), 379–382.

A rating scale of 47 items is developed and used in an attempt to predict the relative performance of student nurses enrolled in a 3-year training program in a medium size hospital.

192. Layton, Mary M. Sister. "How Instructors' Attitudes Affect Students." *Nursing Outlook*, Vol. 17 (January 1969), 27–29.

Survey of a selected group of students on the attitudes and actions of instructors that helped or hindered learning is presented.

193. Ledbetter, Peggy Jean. "An Analysis of the Performance of a Selected Baccalaureate Program in Nursing with Regard to Selected Standard Examinations." Birmingham, Alabama: University of Alabama, 1968. *Dissertation Abstracts International*, Vol. 29, 3381–A.

This study is concerned with the analysis of collegiate nursing students' scores on standardized tests concerned with admission, achievement, and licensure. Further, a determination is made of the relationship between standardized test scores, clinical nursing course grades, and grade point averages, in order to identify ways in which standardized testing might contribute to curriculum developments.

194. Lee, Gwendolen. "Innovative Curricula in Baccalaureate Programs in Nursing." Knoxville, Tennessee, The University of Tennessee, 1973. *Dissertation Abstracts International*, Vol. 34 (February 1974), 4703–A.

The purpose of this study is to examine innovative baccalaureate programs in nursing. Specifically, the study identified innovative nursing programs, analyzed a selected sample through specific questions, and developed a model for evaluation of nursing curricula.

195. Legan, Susan. "Perception of Nursing Care." *American Journal of Nursing*, Vol. 65, No. 5 (May 1965), 127, 128.

The study reported is designed to

learn what chronically ill ambulatory patients expect of nurses, what concepts patients have of their own needs, and their comprehension of the role of nurses in caring for them. It is conducted by senior nursing students.

196. Lenberg, Carrie. "Educational Preparation for Nursing—1972." *Nursing Outlook*, Vol. 21, No. 9 (September 1973), 586–593.

Selected results of the latest survey (1970–71) by NLN is reported. Information obtained includes admissions, enrollments, and graduations. In addition, data were obtained on men, minority group students, and LPN/LVN's in RN programs.

197. Lenburg, Carrie G; Burnside, Helen; and Davitz, Lois Jean. "Inferences of Physical Pain and Psychological Distress. III: In Relation to Length of Time in the Nursing Education Program." *Nursing Research*, Vol. 19 (September-October 1970), 399–401.

A questionnaire study administered to first- and second-year nursing students is reported. Perceptions of pain and psychological distress are noted on a scale of 0–7 to determine changes in perception as educational level advances.

198. Leonetti, Ann. "Status of Guidance Services For Potential Nurse Candidates in Selected Senior High Schools." *Journal of Nursing Education*, Vol. 4 (August 1965), 9–13.

High school guidance services are explored as to the extent that they are available to potential nurse candidates during their high school careers, and as to the way they are perceived by freshmen nursing students enrolled in AD, diploma, and baccalaureate programs.

199. "Let's Examine—PNG Performance and Race." *Nursing Outlook*, Vol. 18, No. 7 (July 1970), 41.

Two "Negro" nursing schools and two "white" nursing schools constitute the study's sample. The correlations between PNG scores and State Board test scores for the four separate schools show that the scores on PNG are generally valid as predictors of scores on the licensing examination for the two white schools. In the Negro schools, PNG scores demonstrate greater validity for the eastern school than for the midwestern, with two of the coefficients exceeding those of the white school in the same city. On the whole, PNG show generally low and occasional negative validity for the two Negro schools.

200. "Let's Examine—Student Expectations and Dropouts from Schools of Nursing." *Nursing Outlook*, Vol. 15 (July 1967), 63.

A general report of the findings of the NLN study of reasons for attrition as surveyed from 1,852 students in 43 diploma programs in the U.S. is presented.

201. Levine, Adeline Gordon. "Marital and Occupational Plans of Women in Professional Schools: Law, Medicine, Nursing, Teaching." New Haven, Connecticut: Yale University, 1968. *Dissertation Abstracts International*, Vol. 30 (August 1969), 829–A.

This study examines the marital and occupational plans of women in four professions by means of questionnaire and interview.

202. Levitt, Eugene; Lubin, Bernard; and DeWitt, Kathryn N. "An Attempt to Develop an Objective Test Battery for the Selection of Nursing Students." *Nursing Research*, Vol. 20, No. 3 (May-June 1971), 255–258.

The interest of this study is in the development of a test battery that could reasonably be used by schools of nursing with incoming potential students, and which would differentiate between those who would drop out and those who would graduate.

203. Lewis, John. "The Relationship Between Academic Aptitude and Occupational Success for a Sample of University

Graduates." *Educational and Psychological Measurement*, Vol. 35 (1975), 465, 466.

The academic aptitude at the time of admission to college and level of occupation later in life are collected for 619 male college graduates. The statistically significant relationship indicate that the graduates with higher aptitude scores as compared with those with lower scores are more likely to report higher level occupations.

204. Lewis, John and Welch, Margaret. "Predicting Achievement in An Upper-Division Bachelor's Degree Nursing Major." *Educational and Psychological Measurement*, Vol. 35 (1975), 467–469.

Correlations between objective background variables and achievement in an upper-division bachelor's degree program in nursing are determined.

205. Liddle, Rogers L.; Heywood, Harold L; Hankey, Richard O.; and Morman, Robert R. "Predicting Baccalaureate Degree Attainment for Nursing Students: A Theoretical Study Using the TAV System." *Nursing Research*, Vol. 20, No. 3 (May-June 1971), 258–261.

This study is a 7-year followup of 100 nursing students pursuing a baccalaureate degree in nursing and/or a Health Services Credential, using the TAV Selection System scores as possible predictors of obtainment/nonobtainment of the baccalaureate degree.

206. Lin, Y. and McKeachie, W. J. "Student Characteristics Related to Achievement in Introductory Psychology Courses." *British Journal of Educational Psychology*, Vol. 43 (February 1973), 70–76.

Three studies of prediction of academic achievement in introductory psychology courses are reported. The study indicates that independent contributions beyond intelligence affect the course grade.

207. Litherland, R. L. "Iowa Tests of Educational Development as a Predictor of Academic Success in Iowa Schools of Professional Nursing." Iowa City, Iowa: The University of Iowa, 1966. *Dissertation Abstracts International*, Vol. 27 (November 1966), 1240–A.

The power of the Iowa Test of Educational Development to predict academic success for students in Iowa schools of professional nursing (as reflected in first and final nursing school GPA's and State Board Examination scores) is investigated.

208. Lynch, Lillian. "Toward Appropriate Change in Behavior Measuring Knowledge, Attitude and Skills in Continuing Education." *Journal of Continuing Education in Nursing*, Vol. 3, No. 5 (October 1972), 6–10.

Pretests and posttests are administered to 51 registered nurses to determine the effectiveness of a leadership conference/continuing education program, and to determine change in behaviors measuring knowledge, attitude, and skill.

209. Lysaught, Jerome P. *An Abstract for Action*. New York: McGraw-Hill Book Company, 1970.

This report of the National Commission for the Study of Nursing and Nursing Education covers a $2\frac{1}{2}$-year study on: nursing roles and functions, nursing education, and nursing careers. The general approaches used to attain the objectives are 1) analysis of current practices and patterns, and 2) the assessment of future needs. The investigation consists of observational and descriptive tasks, combined with collection and analysis of findings from other studies. A detailed set of recommendations, along with discussion of findings is presented.

210. Lysaught, Jerome. "No Carrots, No Sticks." *Journal of Nursing Administration*, Vol. 2 (September-October 1972), 43–50.

Maslow's approach of explaining human motivation through a heir-

archy of needs to analyze nurses' motivation to remain in practice, particularly in jobs with direct patient contact is used. It is likely that most nurses find it difficult to meet their lower level needs for security, and beyond those, to satisfy their psychosocial needs for greater contribution, acceptance, recognition and fulfillment.

211. McCloskey, Joanne. "Influence of Rewards and Incentives on Staff Nurse Turnover Rate." *Nursing Research*, Vol. 23, No. 3 (May-June 1974), 239–247.

This study is done to identify and to rate, in order of importance, specific rewards and incentives which hospital staff nurses report would keep them on the job. They are grouped in social, safety and psychological rewards and incentives. The psychological rewards of self-esteem while on the previous job are compared with self-esteem after leaving the job.

212. McCulloch, Etta S. "Accountability and Practical Nursing Education." Tallahassee, Florida: Florida State University, 1972.

A 10-year followup descriptive research study is done to determine the need for and/or direction of change in one school of nursing. A questionnaire is mailed to 496 graduates; 306 respond. The tool is designed to assess the adequacy of curriculum content as it relates to the employment behaviors of the graduates.

213. McDonnell, Catherine and Kramer, Marlene. "What Would You Do?" *American Journal of Nursing*, Vol. 72, No. 2 (February 1972), 296–301.

A Likert-type attitude scale (Corwin's) is used to measure baccalaureate degree nurses' loyalty to bureaucratic and professional roles. An interview is conducted with each subject, following the administration of a hypothetical nursing situation, to determine how he/she would integrate instrumental and expressive functions in practice.

214. McGivern, Diane. "Baccalaureate Preparation of the Nurse Practitioner." *Nursing Outlook*, Vol. 22, No. 2 (February 1974), 94–98.

The author discusses Lehman College's undergraduate curriculum and its desired end-product (nurse practitioners). Preparation for primary care is also discussed. For teaching an expanded role for nurses on the baccalaureate level, the author cites three problems and processes: faculty development, agency placements, and student development.

215. MacGregor, Frances C. "Talent Salvage in Nursing." *Nursing Outlook*, Vol. 16 (August 1968), 33–37.

The Cornell University-New York Hospital School of Nursing conducts a seminar-tutorial course for 19 senior nursing students who are highly motivated and talented students, and who are more preoccupied with the pursuit of ideas than with technical procedures, and who are dissatisfied with the status quo. The object is to develop a research attitude in talented students, by helping them to think scientifically and to develop a scientific approach to problems.

216. MacGuire, Jillian M. "Attrition from Nursing Training: Part I." *International Nursing Review*, Vol. 17, No. 1 (1970), 33–42.

A collective report of several studies conducted in the field of nursing training and education in the United Kingdom presented. The studies could be divided into six main groups: 1) recruitment and selection, 2) training and withdrawal, 3) experimental courses, 4) sickness absence, 5) recently qualified nurse, and 6) hospital environment.

217. MacGuire, Jillian. "Attrition from Nursing Training: Part II." *International Nursing Review*, Vol. 17, No. 2 (1970), 135–143.

Part II presents a collective report describing the methodologies and instruments used in 68 studies dealing with nursing education in the United Kingdom.

218. MacGuire, Jillian M. and Sparks, Susan. "The Nurse Graduate in the United Kingdom: Patterns of Qualification." *International Nursing Review*, Vol. 17, No. 4 (1970), 350–369.

The general aim in carrying out the survey from which the data presented in this paper were derived is to provide background information on the pool of nurses with graduate qualifications against which the new concurrent degree programs for nurses could be assessed.

219. McIntyre, Hattie M.; McDonald, Frederick J; Bailey, June T.; and Claus, Karen K. "A simulated Clinical Nursing Test." *Nursing Research*, Vol. 21, No. 5 (September-October 1972), 429–435.

The article describes the development of a testing instrument, within a baccalaureate nursing curriculum, which simulated decision-making; it is used to evaluate the curriculum, as as the curriculum was supposed to stimulate and develop problem-solving skills of students by providing practice in decision-making and strategy evaluation.

220. McKenna, Marion Elizabeth. "Differentiating Between Professional Nursing Practice and Technical Nursing Practice." Gainesville, Florida: University of Florida, 1970. *Dissertation Abstracts International*, Vol. 31 (January 1971), 4157–B.

Elements of professional nursing practice and technical nursing practice are identified in order that employers of nurses, prospective students of nursing, and the public, could more readily understand the differences.

221. McLaughlin, Frank E. "Personality Changes Through Alternate Group Leadership." *Nursing Research*, Vol. 20, No. 2 (March-April 1971), 123–130.

Senior baccalaureate nursing students from two different schools are studied by the investigators in an attempt to determine whether demonstrable personality changes occur within group members who participate in an alternate group format.

222. McLaughlin, Frank E.; Davis, Mary L.; and Reed, John L. "Effects of Three Types of Group Leadership Structure on the Self-Perceptions of Undergraduate Nursing Students." *Nursing Research*, Vol. 21, No. 3 (May-June 1972), 245–257.

The study measured the effects of three different types of leadership on the interpersonal small group experience.

223. Marlowe, Roberta Ann. "Nursing Ideology and the Social Structure of Long-Term and Short-Term General Hospital Services." St. Louis, Missouri; Washington University, 1969. *Dissertation Abstracts International*, Vol. 30 (January 1970), 3250–3251–B.

The relationship between nursing ideology and the social structures of general hospital nursing services were studied. The investigator did not specify which instrument was used in the dissertation abstract.

224. Marram, Gwen Dower. "Visibility of Work and the Evaluation Process: Evaluation and Authority for Nurses in Hospitals and Teachers in Open and Closed Schools." Stanford, California: Stanford University, 1972.

The purposes are to: 1) identify perceptions of teachers and nurses about the importance and soundness of their evaluators' evaluations, as well as about the visibility of their work to different evaluators; and 2) provide a systematic analysis of the effects of teaming upon attitudes of nurses and teachers toward their work and evaluations they receive.

225. Martin, Almeda B. "Associate Degree Nursing . . . Are Changes Needed in

the Practice Field for New Graduates?" *The Journal of Nursing Education*, Vol. 8, No. 3 (August 1969), 7–12.

The present hierarchical hospital system and the complications encountered in getting needed services to patients without using the specialized skills of nursing to coordinate "things" are deterrents to an efficient practice field. A number of suggestions are made for changes in the practice field.

226. Massari, D. J. and Rosenblum, D. C. "Locus of Control, Interpersonal Trust and Academic Achievement." *Psychological Reports*, Vol. 31 (October 1972), 355–360.

The authors examine the relationship of locus of control, interpersonal trust and academic performance of 133 college students. Internality and trust are significantly negatively related to achievement for 43 women but unrelated for 90 men. In addition, internality is significantly positively related to trust and unrelated to intelligence for both sexes.

227. Matheney, Ruth. "Can Nursing Live with Open Admissions?" *American Journal of Nursing*, Vol. 70, No. 12 (December 1970), 2561–2564.

The phrase "open admissions" is in itself an admission that not all students will come to the collegiate experience with a background that will guarantee they are equipped to achieve success as it is now measured in higher education. The author discusses pros and cons of open admissions, particularly as it may affect nursing.

228. Mauksch, Hans O. "Becoming a Nurse: A Selective View." *Social Interaction And Patient Care*. Eds. Skipper, James K., Jr. and Leonard, Robert C. Philadelphia: J. B. Lippincott Company, 1965.

The author examines some of the factors appearing to be important agents in affecting the development of the young woman who enters a hospital school of nursing. He also examines the characteristics of the newcomer to nursing.

229. Mauksch, Hans. "Nursing: Churning for Change?" *Handbook of Medical Sociology*. Eds. Freeman, H.; Levine, S.; and Reeder, L. New Jersey: Prentice-Hall. Inc., 1972

The author discusses the profession of nursing from the historical standpoint, how nursing and the medical profession have related to one another from the beginning of nursing to the present, and possible implications for nursing in the future within the development of the expanded role of the nurse.

230. May, Theodore. "Differences Between Nursing Student Dropouts and Remainers on the Study of Values." Psychological Reports 19, Part I. *Psychological Abstracts*, Vol. 41 (April 1967), 491.

This study investigates the importance of nonintellectual factors for the prediction of student nursing success, and compares the Allport-Vernon-Lindzey Study of Values scores of baccalaureate nursing student dropouts and remainers.

231. May, Theodore W. and Ilardi, Robert L. "Change and Stability of Values in Collegiate Nursing Students." *Nursing Research*, Vol. 19, No. 4 (July-August 1970), 359–362.

The Allport-Vernon-Lindzey Study of Values is used in this study to determine whether any changes in values have taken place over the years in baccalaureate nursing students during their educational experience.

232. Mayes, Nancy; Schultz, Marynell; and Pierce, Chester M. "Commitment to Nursing—How Is It Achieved?" *Nursing Outlook*, Vol. 1, No. 7 (July 1968), 29–31.

233. Mealey, Anne R. and Peterson, Terrance. "Self-Actualization of Nursing Students Resulting from a Course in Psychiatric Nursing." *Nursing Research*, Vol. 23, No. 2 (March-April 1974), 139–143.

Using the Personal Orientation Inventory, the authors attempt to measure personality changes in diploma nursing students which result from a required course in psychiatric nursing.

234. Meleis, Afaf and Farrell, Kathleen. "Operation Concern: A Study of Senior Nursing Students in Three Nursing Programs." *Nursing Research*, Vol. 23, No. 6 (November-December 1974), 461–468.

The study is designed to identify and explore biographical and attitudinal differences and/or similarities among graduating seniors in the three different levels of nursing education in San Francisco. The authors try to determine whether graduates of different programs present different qualities of nursing care.

235. Metz, Edith A. and McCleary, Carol M. "Knowing the Learner." *The Journal of Nursing Education*, Vol. 9, No. 1 (January 1970), 3–9.

The process of identifying learning characteristics and utilizing the information acquired involves four phases: 1) recognition of the necessity of acquiring information about the student's past educational experiences; 2) acquisition of the desired information; 3) determination of the implications of the data; and 4) implementation of prescribed adaptations

236. Meyer, John W. "High School Effects on College Intentions." *American Journal of Sociology*, Vol. 76 No. 1 (July 1970), 59–70.

The author refines and enlarges the argument for an often reported finding that the social-status composition of a high school independently affects the college-going intentions of its students. This effect seems not to reflect organizational quality of the high school, but results from the social class composition of the school. Whether the presence of many higher status students acts primarily by creating an informal peer climate favoring college preparation, or by building an orientation toward colleges into the formal expectations and standards of the school is not clear.

237. Michael, W. B.; Haney, Russell; and Jones, R. A. "The Predictive Validities of Selected Aptitude and Achievement Measures and of Three Personality Inventories in Relation to Nursing Training Criteria." *Educational and Psychological Measurement*, Vol. 26 (1966), 1035–1040.

Numerous standardized tests are used with nursing students to obtain additional cross-validation data on a number of cognitive and noncognitive predictor variables that have been used previously in selecting nursing students, and to obtain new information concerning predictive validities of certain scales.

238. Michael, William B.; Haney, Russell; Lee, Young B.; and Michael, Joan J. "The Criterion-Related Validities of Cognitive and Noncognitive Predictors for Nursing Candidates." *Educational and Psychological Measurement*, Vol. 31, No. 4 (1971), 983–987.

Validity coefficients of seven standardized cognitive test measures, four indices of high school achievement, and two scales from each of two self-report inventories, in relation to the predicition of grades in each of eight nursing-related courses, are cited in this study involving 128 diploma nursing students.

239. Miller, Carol L.; Feldhusen, John F.; and Asher, William J. "The Prediction of State Board Examination Scores of Graduates of an Associate Degree Program." *Nursing Research*, Vol. 17, No. 6 (November-December 1968), 555–558.

This research is designed to develop an equation for predicting State Board scores of graduates of an associate degree nursing program from regression analysis of State Board scores.

240. Miller, Michael H. "A Follow-Up of First-Year Nursing Student Dropouts." *Nursing Forum*, Vol. XIII, No. 1 (1974), 32–47.

Questionnaires are administered to 236 dropouts from six different schools of nursing (all three types of programs represented) to determine their reasons for entering nursing, dropping out of nursing school, and their present and future plans.

241. Miller, Michael H. "On Blacks Entering Nursing." *Nursing Forum*, Vol. II, No. 3 (1972), 248–263.

Attitudes, values, and perceptions of nursing of white and black associate degree nursing students are compared by means of a survey.

242. Mitchell, Theresa Lou. "An Exploratory Study of Selected Variables Related to Attrition in one School of Nursing." Kansas City, Missouri: University of Missouri, 1970. *Dissertation Abstracts International*, Vol. 31 (February 1971), 4798–B.

The study aims at securing data which can be used at the Research Hospital and Medical Center School of Nursing in the evaluation of first-year attrition and as an aid in efforts to reduce the number of first-year dropouts.

243. Montag, Mildred L. *Evaluation of Graduates of Associate Degree Nursing Programs.* New York: Teachers College, Columbia University, 1972.

A followup study which evaluates the functioning and success of associate degree nursing programs is conducted, sampling more than 900 graduates of these programs, and their employers.

244. Moore, Sister Anne B. "Utilization of Graduates of Associate Degree Nursing Programs." *Nursing Outlook*, Vol. 12, No. 15 (December 1967), 50–52.

Nursing service directors are interviewed in order to determine how they utilize graduates of associate degree nursing programs.

245. Moore, Marjorie Anne. "A Study of the Extent to which Specific Behavioral Objectives Differentiate Baccalaureate, Diploma, and Associate Arts Nursing Education Programs," Iowa City, Iowa: University of Iowa, 1966. *Dissertation Abstracts International*, Vol. 27–B (March 1967), 3159.

The purpose of this study is to develop behavioral objectives which, when judged by nursing educators, would differentiate among associate arts, diploma, and baccalaureate nursing education programs.

246. Moore, Marjorie A. "The Professional Practice of Nursing." *Nursing Forum*, Vol. 8, No. 4 (April 1969), 361–373.

The author agrees that we are not yet ready to differentiate professional and technical nursing in terms of the nurse's educational preparation. She contends that the distinction should be based on the activity involved and identifies the scientific method, or problem-solving approach, as essential to professional practice.

247. Moores, Brian. "Patterns of Student Nurse Wastage." *International Journal of Nursing Studies*, Vol. 8, No. 1 (February 1971), 61–71.

The "Institutional Effect" (i.e., how better hospitals achieve a higher pass rate with the least qualified girls than the poorer hospitals manage with those who are particularly well qualified) is investigated as it contributes to student nurse wastage.

248. Moran, Ruth Virginia. "Faculty-Identified Characteristics of Students Having Difficulty Completing Baccalaureate Programs in Nursing." New York, New York: Columbia University, 1973. *Dissertation Abstracts International*, Vol. 34 (February 1974), 4709–4710A.

An attempt is made to answer questions concerning the characteristics of students experiencing difficulty in completing baccalaureate

programs in nursing, the relationship of these characteristics to those of the "disadvantaged," the measures faculties in schools of nursing employ to assist those students, and to derive implications for nursing education based on the patterns of faculty intervention.

249. Morgan, Ronald R. "Prediction of College Achievement Using the Need Achievement Scale from the Edwards Personal Preference Schedule." *Educational and Psychological Measurement*, Vol. 35 (1975), 387–392.

The major purposes of this study are to provide additional evidence concerning the efficiency of the Edwards *n-Ach* measure as a supplement to standard tests of academic aptitude in predicting academic achievement and to discriminate between overachievers and underachievers.

250. Moritz, Derry Ann and Sexton, Dorothy L. "Evaluation: A Suggested Method for Appraising Quality." *The Journal of Nursing Education*, Vol. 9, No. 1 (January 1970), 17–31.

Faced with the traditional custom of grading practice and concerned by a lack of clarity as to the differentiating behaviors between A, B, C, D, and F levels of performance, cooperating students and faculty at the University of Massachusetts School of Nursing assist in the development of a tool to increase understanding of expectations at various performance levels.

251. Morman, Robert R.; Liddle, Rogers L.; and Heywood, Harold L. "Prediction of Academic Achievement of Nursing Students." *Nursing Research*, Vol. 14, No. 3 (Summer 1965), 227–230.

The primary objectives of this research involving collegiate nursing students are: 1) correlate the TAV Selection System and its theoretically derived scoring keys with subsequently earned grade point averages; and 2) determine the internal consistency reliability of each of the scoring key dimensions of T,A, and V.

252. Morill, W. H.; Miller, C. D.; and Thomas, Lucinda E. "Educational and Vocational Interests of College Women." *Vocational Guidance Quarterly*, Vol. 19 (December 1970), 85–89.

The study reveals that it should not be assumed that a student's academic and occupational identities are the same. For example, there is no relationship between library arts education interest and librarian vocational interest.

253. Mowbray, Jean K. and Taylor, Raymond G. "Validity of Interest Inventories for the Prediction of Success in a School of Nursing." *Nursing Research*, Vol. 16, No. 1 (Winter 1967), 78–81.

The study is done in a diploma school of nursing to assess the use of the Kuder Preference Record and the Strong Vocational Interest Blank as predictors of success in the school of nursing.

254. Mueller, E. Jane and Lyman, Howard B. "The Prediction of Scores on State Board Test Pool Examination." *Nursing Research*, Vol. 18 No. 3 (May-June 1969), 263–267.

It is hoped that through this study regression equations can be formulated to predict success or failure on the registered nurses' licensing examination of students in a given diploma school of nursing.

255. Muhlenkamp, Ann F. "Let's Examine—Prediction of State Board Scores in a Baccalaureate Program." *Nursing Outlook*, Vol. 19 (January 1971), 57.

The article compares correlation between College Board Scholastic Aptitude Test, Grade Point Average and NLN achievement test for baccalaureate nursing students.

256. Munday, Leo and Hoyt, Donald P. "Predicting Academic Success for Nurs-

ing Students." *Nursing Research*, Vol. 14, No. 4 (Fall 1965), 341–344.

The authors review data from the ACT Research Service on the use of ACT data in schools of nursing. Their purpose is to compare its validity with that of other measures, and to summarize the predictive efficiency of ACT data with respect to grades in courses typically included in nursing school curricula.

257. Munson, Fred C. and Heda, Shyam S. "An Instrument For Measuring Nursing Satisfaction." *Nursing Research*, Vol. 23, No. 2 (March-April 1974), 159–166.

A 22-item, 4-factor intrinsic, involvement, interpersonal, and extrinsic questionnaire constructed to measure job satisfaction is tested for its validity by being administered to 351 registered nurses in 55 patient units in hospitals.

258. Myers, Emily and Pott, Ella. "An Internship for New Graduates." *American Journal of Nursing*, Vol. 68, No. 1 (January 1968), 97,98.

A program designed to ease the problems faced by the new graduate during her transition from classroom to nursing service is described.

259. NLN, *A Validation Study of the NLN Pre-Nursing and Guidance Examination and Related Studies Emerging from Data Gathered from the Validation Study*. New York: The National League for Nursing, Inc. 1970.

This study is conducted in an attempt to determine the degree to which the tests in the revised (1959) Pre-Nursing and Guidance Examination battery were effective in predicting success in nursing school and on the licensure examination.

260. NLN, *Some Objective Approaches to Evaluation—Case Presentations*. New York: The National League for Nursing, Inc., 1972.

This collection of case presentations illustrate how different faculties approached the use of course objectives in evaluating the clinical performance of nursing students.

261. NLN, Department of Diploma Programs. *Characteristics of Diploma Education for Nursing*. New York: The National League for Nursing, Inc. 1966.

The article lists identifying characteristics of educationally sound diploma schools of nursing and attributes of successful graduates.

262. NLN, Division of Research. "Educational Preparation for Nursing—1967." *Nursing Outlook*, (September 1968), 52–56.

The annual report of NLN research department on admissions, enrollments, and graduations in practical, associate, diploma, baccalaureate, and graduate programs is presented.

263. NLN, Division of Research. "Educational Preparation for Nursing—1968." *Nursing Outlook*, (September 1969), 76–79.

The annual report of NLN on admissions, enrollments, and graduations from practical, associate, diploma, and baccalaureate and graduate programs in nursing is presented.

264. NLN, Division of Research. "Educational Preparation for Nursing—1969." *Nursing Outlook*, Vol. 18, No. 9 (September 1970), 52–57.

This report summarizes selected results from the NLN survey (1968–69). This annual report by NLN on admissions, enrollments, and graduations in practical, or vocational, associate, diploma, baccalaureate, and graduate programs in nursing includes statistics on blacks and men.

265. NLN, Division of Research. "Educational Preparation for Nursing—1970." *Nursing Outlook*, Vol. 19, No. 9 (September 1971), 604–607.

This report summarizes selected results from the NLN survey (1969–70). The annual report of admissions, enrollments, and graduations from practical, associate, diploma,

baccalaureate, and graduate programs in nursing is included

266. NLN, Measurement and Evaluation Services. "Let's Examine—The Relationship of PNG and Achievement Test Scores." *Nursing Outlook*, Vol. 17, No. 3 (March 1965), 52.

This report states that composite PNG scores are the best predictors of the NLN Achievement Test scores in diploma programs, but not consistently best in baccalaureate and associate degree programs. Diploma and degree students produce comparable "highest" coefficients in four basic course-end achievement tests.

267. Nash, Patricia M. *Evaluation of Employment Opportunities for Newly Licensed Nurses*. Washington, D.C.: U.S. Government Printing Office, 1975, (DHEW Pub. No. (HRA) 75-12.)

The objective of this study is to secure information about job-seeking experiences of newly licensed registered and practical nurses, and specifically to focus on: 1) the availability of nursing employment to newly licensed nurses; 2) the kinds of nursing employment in which job opportunities are most numerous; 3) the degree and basis for selectivity exercised by nurses in choosing their initial employment; 4) the extent of geographic mobility exhibited by nurses in selecting initial employment; 5) the length of time unemployed before taking initial employment; and 6) the sources of job information available to and utilized by nurses.

268. Nealey, Stanley M. and Blood, Milton R. "Leadership Performance of Nursing Supervisors at Two Organizational Levels." *Journal of Applied Psychology*, Vol. 52, No. 5 (1968), 414–422.

The present study is based on a single, simple hypothesis that effective leadership style and leadership behavior patterns would differ across supervisory levels. This hypothesis is confirmed. In general, good performance ratings by superiors go to high LPC (relations oriented) second-level supervisors and to low LPC (task oriented) first-level supervisors. Subordinates' job satisfaction is positively related to leader consideration at both levels of supervision.

269. Nealey, S. M. and Owen, Terry W. "A Multitrait-Multimethod Analysis of Predictors and Criteria of Nursing Performance." *Organizational Behavior and Human Performance*, Vol. 5 (1970), 348–365.

Multiple measures of leader behavior are correlated to examine the relations between the several aspects of leader behavior as predictors of several areas of rated performance by subordinates.

270. Nelson, David E. "The Prediction of Student Performance in a College of Medicine by Biographical Information Personality Scores and Academic Measures." Salt Lake City, Utah: University of Utah, June 1972.

In general the study suggests some sound new directions in performance evaluation of medical students for predictor validation. It also confirms the frequently observed difficulties in reliance on only intellectual predictors of medical school success. Perhaps most importantly, this research strengthens the notion of potential great utility in the use of biographical information and other nonintellectual measures for improved prediction of performance in the various dimensions of medical training.

271. New York State Department of Health. *Registered Professional Nursing Programs, Their Applicants and Withdrawals*. Albany, New York: 1971.

A study is made of the admission experience of registered professional nursing programs and their applicants. This study is designed to

focus on some characteristics of registered professional nursing programs, and one of their sources of potential nursing manpower—individuals who had experienced difficulty in gaining entrance to or remaining in registered professional nursing programs.

272. Nichols, Glennadee A. "Clinical Observations and Actions of Nursing Students." *The Journal of Nursing Education,* Vol. 7, No. 4 (November 1968), 15–24.

A short, filmed patient situation is viewed by 203 nursing students, and data are collected to determine the relationship between the type of nursing educational program attended and the number and type of nursing observations made, as well as the number and type of nursing actions recommended in reference to the viewed film.

273. Nichols, Glennadee A. "Job Satisfaction and Nurses' Intentions to Remain With or to Leave an Organization." *Nursing Research,* Vol. 20, No. 3 (May-June 1971), 219–228.

A job satisfaction study is made of 181 novice Army nurses, using a questionnaire with an ease of movement scale, importance, satisfaction, and alternatives scale.

274. Nunn, Clyde Z. "Peer Popularity, Misperceptions, and Academic Achievement." *Journal of Social Psychology,* Vol. 84 (August 1971), 243–250.

The purpose of this study is to explore the possibility that social perception would provide a needed social-psychological link between peer group effects and academic performance.

275. Ohio Nurses Association. "Who are These New Nurse Graduates?" 1969.

This is a list of role expectations for graduates of the three types of basic nursing programs. Expectations for the beginning practitioner are: 1) planning, giving, and evaluating nursing care; 2) directing group care; 3) interpersonal relationships; 4) teaching patients and families; and 5) personal development and ethical behavior.

276. Olesen, Virginia and Davis, Anne J. "Preliminary Findings on Factors in the Recruitment of Foreign Students." *Nursing Research,* Vol. 20, No. 2 (March-April 1971), 159–162.

The paper reports an exploratory, mailed-questionnaire study of 61 foreign students; 18 of whom are attending the School of Nursing at the University of California, San Francisco, in the fall of 1968, and 43 of whom had attended the School of Nursing during the previous 10 years (1958–68). The purpose of the study is "to determine factors influencing the recruitment, selection, and channeling of these students to a particular university."

277. Olesen, Virginia L. and Whittaker, E. W. *The Silent Dialogue.* San Francisco, California: Jossey-Bass, Inc., 1968.

This book is based on 3 years of field work study of student nurses at the University of California. It deals with the process of professional socialization that takes place in the student, and shows how faculty, the school, and other students influence this process. One section is addressed to the problems of dropouts from nursing. The authors point out that that for some dropouts, the protective insulation of the student culture was insufficient to shelter the self. Some found this too costly.

278. Olmsted, Ann G. "Bases of Attraction to Medicine and Learning Style Preferences of Medical Students." *Journal of Medical Education,* Vol. 48 (June 1973), 572–576.

Learning style preferences identified as independent or dependent are found to be differentially distributed among medical students and related to the basis of their attraction to medicine. Science-oriented medical students prefer a dependent learning style, while people-oriented

medical students prefer an independent learning style. Extrinsically oriented students are about equally divided in learning style preferences.

279. O'Neill, Mary F. "A Study of Baccalaureate Nursing Student Values." *Nursing Research*, Vol. 22, No. 5 (September-October 1973), 437-442.

Using the Allport-Vernon-Lindzey Study of Values and the Gordon's Survey of Interpersonal Values, this study sought to compare the values of nursing students with the other student groups at successive class levels in the different programs.

280. O'Neil, Patricia M. and Madaus, George F. "Differences in Interest Patterns Between Graduates of Diploma and Basic Collegiate Programs in Nursing." *Journal of Counseling Psychology*, Vol. 13 (Fall 1966), 300-305.

This study seeks to determine whether differences exist in the interest patterns of two groups of registered nurses on the Strong Vocational Interest Blank for Women. Thirty of these are graduates of 3-year diploma programs and 30 are graduates of 4-year basic collegiate programs.

281. Oram, Phyllis G. "Induction of Action and Attitude Change: The Function of Role Self-Conflicts and Level of Endorsement." *Journal of Psychology*, Vol. 68 (1968), 39-48.

This study explores the conditions under which induced behavior leads to attitude change. Nurses are asked to write essays against their own opinions under one of the two types of conditions: a role-approach, self-avoidance situation, or a self-approach, role-avoidance situation.

282. Ortelt, J. A. "The Development of a Scale for Rating Clinical Performance." *The Journal of Nursing Education*, Vol. 5, No. 1 (January 1966), 15-17.

The process of developing the clinical performance rating scale by faculty and students at the University of Hawaii School of Nursing involves: 1) learning and categorizing faculty expectations; 2) developing objectives and descriptive behaviors; and 3) developing the rating scale from the stated objectives.

283. Owen, Steven V. "Prediction of Academic Performance in an Associate Degree Nursing Education Program." Lafayette, Indiana: Purdue University, 1970. *Dissertation Abstracts International*, Vol. 31 (April 1971), 5210-5211-A.

The study compares the effectiveness of three models of multivariables of prediction of academic success in identifying the criterion variables of achievement in a nursing education program, and determines the effectiveness of several new predictor variables when used in combination with an established set of predictors.

284. Owen, Steven V.; Feldhusen, John F.; and Thurston, John R. "Achievement Prediction in Nursing Education with Cognitive, Attitudinal, and Divergent Thinking Variables." *Psychological Reports*, Vol. 26 (1970), 867-870.

The study is designed to determine whether two attitude measures, designed specifically for prediction of achievement in nursing education, and a set of divergent thinking tests, can increase the predictive efficiency of an established set of cognitive measures.

285. Paduano, Mary Ann. "Evaluation in the Nursing Laboratory: An Honest Appraisal." *Nursing Outlook*, Vol. 22, No. 11 (November 1974), 703-705.

Clinical evaluation in the nursing arts laboratory rather than in the hospital setting is tried. It is felt that the clinical laboratory can offer predictable situations in which nursing skills can be performed, ob-

served, and evaluated without outside interference.

286. Pallone, N. J. and Hosinski, Sister Marion. "Reality Testing a Vocational Choice: Congruence Between Self, Ideal, and Occupational Percepts Among Student Nurses:" *Personnel and Guidance Journal,* Vol. 45 (March 1967), 666–670.

The study inquires about the ways in which contact with occupational requirements in the work situation affects the projection of self into the occupational role.

287. Palmer, Mary Ellen. "Self-Evaluation of Clinical Performance." *Nursing Outlook,* Vol. 5, No. 15 (November 1967), 63–65.

The author proposes an approach to the students' self-evaluation process, which encompasses two mediums—a teacher who cares (philosophical aspect) and well-defined practice criteria (scientific component.)

288. Pankratz, Loren D. and Pankratz, Deanna M. "Determinants in Choosing a Nursing Career." *Nursing Research,* Vol. 16, No. 2 (Spring 1967), 169–172.

Ten statements about reasons for entering nursing are ranked by nursing students and registered nurses. Influences, such as age when nursing was first considered, age when final decision to enter nursing was made, significant individuals who influenced this decision, and satisfaction with nursing as a career are included.

289. Pankratz, Loren and Pankratz, Deanna. "Nursing Autonomy and Patients' Rights: Development of a Nursing Attitude Scale." *Journal of Health and Social Behavior,* Vol. 15 (September 1974), 211–216.

An attempt to focus on the views of nurses regarding dependence versus independence for both nurses and for patients is made with the use of a Nurse Attitude Scale and Moos' Work Experience Scale.

290. Papcum, Ida. "Let's Examine—Results of Achievement Tests and State Board Tests in an Associate Degree Program." *Nursing Outlook,* Vol. 19 (May 1971), 341.

Correlations between NLN Achievement Test Scores and State Board Scores for an associate degree program are reported.

291. Pavalko, Ronald M. "Recruitment to Nursing: Some Research Findings." *Nursing Research,* Vol. 18, No. 1 (January-February 1969), 72–76.

This paper contributes to an understanding of the social characteristics of young women recruited to the nursing profession via discussing a survey conducted with high school seniors.

292. Paynich, Mary Louise. "Why do Basic Nursing Students Work in Nursing?" *Nursing Outlook,* Vol. 19, No. 4 (April 1971), 242–245.

This study deals with attempting to learn why students, enrolled in a generic baccalaureate nursing program, work on a salaried basis in nursing.

293. Plapp, Jon M.; Psathas, George; and Caputo, Daniel V. "Intellective Predictors of Success in Nursing School." *Educational and Psychological Measurement,* Vol. 25 (Summer 1965), 565–577.

The efficacies of high school rank, the 1937 Gamma AM Form of the Otis Quick-Scoring Mental Ability Test, and the SAT alone and in combination in predicting performance of nursing students with regards to continuance, academic performance, and clinical performance are compared in this investigation.

294. Price, Elmina M. "Report of a Pilot Project to Differentiate Roles." *Journal of Continuing Education in Nursing,* Vol. 3, No. 5 (September-October 1972), 11–21.

The study done to test the hypothesis that separate operational roles for associate and baccalaureate graduates in nursing can be identi-

fied and implemented in the hospital setting.

295. Psathas, George. "The Fate of Idealism in Nursing School." *Journal of Health and Social Behavior*, Vol. 9 (March 1968), 52–64.
Diploma nursing students' perceptions and attitudes in relation to specific roles and situations are explored.

296. Psathas, George and Plapp, Jon. "Assessing the Effects of a Nursing Program: A Problem in Design." *Nursing Research*, Vol. 17 (July-August 1968), 336–342.
The Edwards Personal Preference Schedule is used to measure personality needs in 79 diploma nursing students in an attempt to assess the effects of an educational program on personality needs of students.

297. Pueschel, Shirley J. "A Demographic Analysis of the Educational Structure of American Nursing." *Nursing Research*, Vol. 18, No. 3 (May-June 1969), 211–216.
The study explores the relationship of the educational attainment of American nursing with the educational attainment of women in other professional and technical groups, and with women in the clerical occupations. This exploration is demographic. The study includes depletion process of diploma programs in nursing education in the years 1940–65, and a projected depletion process in the years 1965–2000.

298. Quint, Jeanne. "Role Models and the Professional Nurse Identity." *Journal of Nursing Education*, Vol. 6, No. 2 (April 1967), 11–15.
This very timely article is concerned with the impact of role models on the perspectives and role definitions of nursing students in baccalaureate programs. This well-organized comparison differentiates between the model therapeutic agent and the model institutional coordinator along several dimensions and raises some challenging and well-substantiated questions about baccalaureate nursing education's socialization process.

299. Quiring, Julia. "The Autotutorial Approach." *Nursing Research*, Vol. 21, No. 4 (July-August 1972), 332–337.
The study investigates the effect of providing immediate and delayed videotape feedback on sophomore nursing students' performance of nursing procedures.

300. Raderman, Rhoda and Allen, Doris. "Registered Nurse Students in a Baccalaureate Program: Factors Associated with Completion." *Nursing Research*, Vol. 23, No. 1 (January-February 1974), 71–73.
A comparison is made of selected characteristics of registered nurse students in a baccalaureate program who obtained their degrees with those who did not.

301. Ramey, Irene G. "Meeting Today's Challenges to Nursing Service and Education." *Nursing Forum*, Vol. VIII, No. 2 (1969), 160–175.
The author discusses the factors that are causing problems for the nursing profession, such as population explosion and Medicare. She suggests five goals for the profession to work toward in order to find some solutions to these problems.

302. Redman, Barbara K. "Nursing Teacher Perceptiveness of Student Attitudes." *Nursing Research*, Vol. 17, No. 1 (January-February 1968), 59–64.
This study investigates perceptiveness of clinical teachers in nursing for their students' attitudes toward relationships with patients, other students, and clinical teachers.

303. Redman, P. W. "An Analysis of the Progress of Student Nurses Entering Training at Whittington Hospital, London, Since May 1960." *International Journal of Nursing Studies*, Vol. 4 (February 1967), 7–14.
The purpose of this study is to compare the score on the General Nursing Council's entrance test, a

new selection procedure introduced in 1960, with the subsequent results on the State examination.

304. Reed, Cheryl and Feldhusen, John F. "State Board Examination Score Prediction for Associate Degree Nursing Program Graduates." *Nursing Research*, Vol. 21, No. 2 (March-April 1972), 149–153.

This research is directed toward the prediction of achievement on the State Board Examination, using preadmission and college predictor variables. Age upon admission, high school rank, and SAT scores form the bases for predictor variables.

305. Reed, C. L.; Feldhusen, J. F.; and Van-Mondfrans, A. P. "Prediction of Grade Point Averages Using Cognitive and Noncognitive Predictor Variables." *Psychological Reports*, Vol. 32 (February 1973), 143–148.

This study investigates the usefulness of a number of noncognitive variables in improving the prediction of nursing students' first semester, second semester, and first-year grade point averages.

306. Reed, David A. "Nurse-Recruitment Committee Tackles Staffing Problems." *Hospital Topics* (April 1967), 43–45.

This article deals with the development of an effective nurse-recruitment program in a hospital and the factors to be considered in its development.

307. Reed, Fay. "Baccalaureate Education and Professional Practice." *Nursing Outlook*, Vol. 15, No. 1 (January 1967), 50–52.

The author argues that nurses who have been graduated from baccalaureate programs can be best understood in terms of what they know and what they are able to accomplish as a result of this knowledge rather than in terms of what they do. She attempts to define some ways in which nurses who have completed an upper division major in nursing and who have been graduated from a baccalaureate program differ from their nurse colleagues and to describe how these differences enable them to make a unique contribution to patient care.

308. Reekie, Elagrace. "Personality Factors and Biographical Characteristics Associated with Criterion Behaviors of Success in Professional Nursing." Seattle, Washington: University of Washington, 1970. *Dissertation Abstracts International*, Vol. 31 (April 1971), 5212-A.

The Clinical Nursing Rating Scale proves to be a useful tool for clinical-nursing assessment. The findings led to the conclusion that these predictor-variables and criterion measures of significance need to be combined with other test battery data and early in-school achievement measures in a multiple regression formula, using a larger subject sample to obtain the best prediction model of success in nursing.

309. Reinkemeyer, Sister Agnes M. "New Approaches to Professional Preparation." *Nursing Forum*, Vol. IX, No. 1 (1970), 27–40.

The author expresses her opinion on and rationale for reorganization of nursing education systems (on all levels) to provide true professional practitioners.

310. Richards, Mary Ann Bruegel. "A Study of Differences in Psychological Characteristics of Students Graduating from Three Types of Basic Nursing Programs." *Nursing Research*, Vol. 21, No. 3 (May-June 1972), 258–261.

An intelligence test, personality inventory, and professionalization scale are used in an attempt to define differences among graduates of baccalaureate, associate degree, and diploma nursing programs.

311. Richek, Herbert G. and Nichols, Tempie. "Personality and Cognitive Characteristics of Prenursing Majors." *Nursing Research*, Vol. 22, No. 5 (September-October 1973), 443–448.

The study investigates the correlation between personality and cognitive characteristics of college fresh-

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men who chose nursing as opposed to other related fields. Basic tool is Brown Self-Report Scales as measures of mental health.

312. **Risser, Nancy L.** "Development of an Instrument to Measure Patient Satisfaction with Nurses and Nursing Care in Primary Care Settings." *Nursing Research*, Vol. 24, No. 1 (January-February 1975), 45–51.

An instrument that evaluates patient attitudes toward nurses and nursing care in a primary care setting is described. Respondents for two sequential trials were 78 and 60 patients of internists or general practitioners at a group health cooperative.

313. **Robinson, Alice M.** "Black Nurses Tell You: Why So Few Blacks in Nursing." *RN*, Vol. 35, No. 7 (July 1972), 35–41, 73, 75, 76.

Six prominent black nurse-leaders give recommendations as to what the profession of nursing can do to recruit more blacks into nursing and reduce the black attrition rate. Developing a better system of informing high school counselors what nursing really is, using black nurses as recruiters, devising better methods of interviewing and otherwise screening prospective students, remedial work offered for those who need it, use of blacks who have "made it" in nursing as role models, and a committed nursing faculty, are all ways in which the leaders feel nursing could facilitate recruiting and maintaining more blacks within the profession.

314. **Roehm, Maryanne E.** "An Analysis of Role Behavior, Role Expectations, Role Conflict, Job Satisfaction and Coping Patterns of Associate Degree, Diploma, and Baccalaureate Degree Graduates in Beginning Nursing Positions." Indiana University, 1966.

Purposes are to determine if discrepancies exist between role concept and role performance of AD, diploma, and baccalaureate degree graduates who are in beginning nursing positions, and to determine the relationship of role conflict to job morale and coping patterns.

315. **Roraback, Catherine.** "The College Bound High School Senior Girls and Nursing as a Major Field of Study." New York: Columbia University, 1968. *Dissertation Abstracts International*, Vol. 29 (April 1969), 3802–3803-B.

The study describes the value orientations of 503 college bound high school seniors who planned to enter nursing.

316. **Rottkamp, Barbara.** "Attrition Rates in Basic Baccalaureate Nursing Programs." *Nursing Outlook*, Vol. 16 (June 1968), 44–47.

A report of some quantitative data on attrition from years 1954–61 is presented. No original data are produced as this is not a study but a compilation of others' findings. The author discusses general reasons for attrition and makes recommendations.

317. **Rutherford, Ruby.** "What Bothers Staff Nurses." *American Journal of Nursing*, Vol. 67, No. 2 (February 1967), 315–318.

The author discusses job conditions in hospitals which bother staff nurses. Most of the conditions or characteristics revolve around the feeling that nurses are unrealistically prepared in nursing school for the nursing role.

318. **Ryback, David.** "A Critical Incident Simulation Technique for Nurse Selection." *International Journal of Nursing Studies*, Vol. 4 (1967), 81–90.

This study attempts to construct a test which would involve items simulating situations in nursing settings which would require decision-making skills and communication skills. Test was administered to student nurses, staff nurses, and head nurses.

319. **Saarinen, Pirkko and Anttila, Yrjo.** "The Usability of the Schaffer Job Satis-

faction Test in Nursing School Applicant Selection (II)." *Reports from the Institute of Psychology, The University of Helsinki.* (January 1972).

A continuation of previous research using the Schaffer Job Satisfaction Test is reported. The aim was the comparison of: a) data concerning the needs students feel as important to job satisfaction taken as part of selection testing, using the SJS and a self-rating sheet based on the test, with b) data collected at the end of training.

320. Saffer, Jerry B. and Saffer, Linda D. "Academic Record as a Predictor of Future Job Performance of Nurses." *Nursing Research,* Vol. 21, No. 5 (September-October 1972), 457–462.

A study which seeks to identify specific areas of academic performance which would predict how well nursing students would function as graduate nurses.

321. Sams, Lauranne Brown. "The Relationship Between Anxiety, Stress, and the Performance of Nursing Students." Indiana University, Bloomington, Indiana, 1964. *Dissertation Abstracts International,* Vol. 29 (1964), 1456-A.

The purpose of the study is to investigate the relationship between anxiety level, stress, and the performance of student nurses who are beginning the integrative phase of combining clinical practice with academic learning experience.

322. Sawyer, Jack. "The Altruism Scale: A Measure of Co-operative, Individualistic, and Competitive Interpersonal Orientation." *American Journal of Sociology,* Vol. LXXI, No. 4 (January 1966), 407–416.

The research shows the Altruism Scale to assess with moderate validity and reliability a continuum, ranging from cooperation through individualism to competition, that defines a central orientation of a person towards the rewards he and another experience in interaction. The study uses college students from business, social science, and the YMCA.

323. Scheinfeldt, Jean and Palmer, Sarena. "Expansion: New Youth for Nursing." *American Journal of Nursing,* Vol. 70, No. 8 (August 1970), 1713–1717.

Through ODWIN, Open Doors Wider in Nursing, nurses in Boston, with the help of others, are seeking out interested educationally disadvantaged ghetto youth and helping them to enter and stay in schools of nursing.

324. Schmitt, Edith. "Transition from Student to Graduate." *American Journal of Nursing,* Vol. 67 (December 1967), 2573–2575.

In preparing the senior student to cope with the actual work situation she will face in her first employment, a course is established, during which she functions as a staff nurse. The academic hours of the course concentrate on the activities of team leadership.

325. Schoeberle, Elizabeth A. and Craddick, Ray A. "Human Figure Drawings by Freshmen and Senior Student Nurses." *Perceptual and Motor Skills,* Vol. 27 (1968), 11–14.

A study is conducted with 90 freshmen and 90 senior diploma nursing school students to investigate the kind of image that student nurses have at the freshmen and senior levels, of the "ideal" nurse and of the "undesirable" nurse. The study is implemented via the use of a Draw-A-Person Test.

326. Schulz, Esther D. "Personality Traits of Nursing Students and Faculty Concepts of Desirable Traits: A Longitudinal Comparative Study." *Nursing Research,* Vol. 14, No. 3 (Summer 1965), 261–264.

The study is concerned with the results of the Edwards Personal Preference Schedule as a means of studying changes of nursing students in a basic baccalaureate program.

327. Schwirian, Patricia M. "Analysis of Data Concerning Entering Student Profiles for 1971–73." Curriculum Evaluation Data Report No. 8, Columbus, Ohio: The Ohio State University School of Nursing, September 1974.

Analysis of 69 variables describing entering student profiles for 1971, 1972, and 1973 is presented.

328. Schwirian, Patricia M. "Correlates of Attrition and Fall 1973 Enrollment Status of 1971–72 Entering Sophomores, Ohio State University School of Nursing: Interim Data." Curriculum Evaluation Data Report No. 2, Columbus, Ohio: The Ohio State University School of Nursing, March 2 1974.

Analysis of demographic, educational, cognitive, attitudinal, and personality variables in relation to attrition is presented.

329. Schwirian, Patricia M. and Baer, Charold L. "Analysis of Data Concerning Entering Student Profiles for 1974, 1975." Curriculum Evaluation Data Report No. 14, Columbus, Ohio, The Ohio State University School of Nursing, September 1976.

Analysis of 69 variables describing entering student profiles for 1974 and 1975 is presented.

330. Schwirian, Patricia M. and Baer, Charold L. "Correlates of Attrition and Fall 1974 Enrollment Status of 1972–73 Entering Sophomores." Curriculum Evaluation Data Report No. 15, Columbus, Ohio. The Ohio State University School of Nursing, October 1975.

Analysis of attrition data for classes entering 1972–73, including data on 30 demographic variables, 1 cognitive variable, and 4 personality variables is presented.

331. Seither, Francis G. "A Predictive Validity Study of Screening Measures Used to Select Practical Nursing Students." *Nursing Research*, Vol. 23, No. 1 (January-February 1974), 60–63.

The purpose is to investigate the predictive validity of selected admission screening measures. Specifically, the California Short Form Test of Mental Maturity, California Reading Test, California Test of Personality and the age of the entrant are investigated.

332. Sharp, W. Harry and Anderson, Janet C. "Changes in Nursing Students' Descriptions of the Personality Traits of the Ideal Nurse." *Measurement and Evaluation in Guidance*, Vol. 5, No. 2 (July 1972), 339–344.

The authors explore whether or not nursing students' descriptions of personality traits of the ideal nurse become progressively similar to the faculty's descriptions of the ideal nurse as the students progress in their educational programs.

333. Shetland, Margaret L. "Teaching and Learning in Nursing." *American Journal of Nursing*, Vol. 65, No. 9 (September 1965), 112–116.

A teacher expresses her own views about teaching and learning and explains that it is the process, not the technique, nor even the content, that is important.

334. Siegel, Hildegarde. "Professional Socialization in Two Baccalaureate Programs." *Nursing Research*, Vol. 17, No. 5 (September-October 1968), 403–407.

The author investigates students' characterizations of nursing and the personal importance assigned to them. The process of professional socialization is hypothesized to result in measurable changes.

335. Simpson, H. Marjorie. "Satisfaction and Dissatisfaction of Student Life." *International Nursing Review*, Vol. 15, No. 4, 329–338.

The article discusses a series of studies which were made in the United Kingdom on the recruitment of student nurses, of their experience during training, and of their success and failure in student nursing life.

336. Singh, Amarjit. "The Predictive Value of Cognitive Tests for Selection of Pupil Nurses." *Nursing Times*, Vol. 68 (June 15, 1972), 93–96.

The study provides little justification for recommending any of the tests used in the present survey (Standard Progressive Matrices, Mill Hill Vocabulary, and Reading Comprehension Test) as a means for predicting which trainee would be likely to complete the training, for the present findings do not support the view that the basic reason for dropout is simply that the pupils who withdrew were not well enough equipped intellectually to enter training.

337. Sitzmann, Sister M. Rosalie. "A Study of the Predictive Validity of the Psychological Corporation's Pre-Entrance Examination for Schools of Practical Nursing." Washington, D.C.: The Catholic University of America, 1970. *Dissertation Abtracts International*, Vol. 31 (September 1970), 1024–1025-A.

The aim of this study is to determine the degree to which the Psychological Corporations' Pre-Entrance Examination for Schools of Practical Nursing is a valid instrument for predicting achievement, both in the school of practical nursing and on the licensing examination.

338. Skipper, James K. Jr. "The Role of the Hospital Nurse: Is it Instrumental or Expressive?" *Social Interaction and Patient Care.* Eds. James K. Skipper, Jr. and Robert C. Leonard. Philadelphia: J. B. Lippincott Co., 1965.

The study is conducted to gain some empirical view of the nurse's role definition.

339. Slatker, M. J. and Cramer, S. H. "Risk Taking and Vocational or Curriculum Choice." *Vocational Guidance Quarterly*, Vol. 18 (December 1969), 127–132.

Complete risk-taking and vocational choice data are collected on entering freshmen in the fall semester of 1966 at the State University of New York at Buffalo. A conclusion made is that while there is some evidence to indicate that risk-taking is related to vocational or curriculum choice, it would appear the approach utilized in the present study may be inappropriate to capitalize on this relation.

340. Smith, Gene Marshall. "The Role of Personality in Nursing Education." *Nursing Research*, Vol. 14, No. 1 (Winter 1965), 54–57.

The Edwards Personal Preference Schedule and the Cattell 16 Personality Factor Questionnaire are administered as a preentrance test battery to students of a diploma nursing school in an attempt to study the role of personality on success in nursing education.

341. Smith, Jeanne E. "Personality Structure in Beginning Nursing Students: A Factor Analytic Study." *Nursing Research*, Vol. 17, No. 2 (March-April 1968), 140–145.

Personality inventory scores (of the AVL and EPPS) of a large group of nursing students are examined through factor analysis in order to identify the variety of personality factors among beginning students.

342. Smith, Kathryn. "Discrepancies in the Role-Specific Values of Head Nurses and Nursing Educators." *Nursing Research*, Vol. 14, No. 3 (Summer 1965), 196–202.

The extent to which the role specific values of head nurses and nurse educators differ is studied in a large metropolitan university medical center having a school of nursing.

343. Smith, Kathryn. "The Shifting Frame of Reference in Nursing." *The Journal of Nursing Education*, Vol. 6, No. 2 (April 1967), 3, 4.

The author argues that the frame of reference for nursing action is

shifting from an earlier concentration upon the medical diagnosis, the disease process, and the therapeutic regimen to the patient or individual within the context of the environment. The individual's lifestyle, social roles, cultural values, family patterns, and community milieu are essential foci for today's professional nurse.

344. Smith, Mary Colette. "Perceptions of Head Nurses, Clinical Nurse Specialists, Nursing Educators, and Nursing Office Personnel Regarding Performance of Selected Nursing Activities." *Nursing Research*, Vol. 23, No. 6 (November-December 1974), 505–511.

This study deals with identifying perceptions of categories of personnel regarding role functions and expectations of themselves and others.

345. Smoyak, Shirley A. "A Panel Study Comparing Self-Reports of Baccalaureate and Diploma Nurses Before Graduation and After Their First Work Experience in Hospitals." *ANA Eighth Nursing Research Conference*, Vol. 189 (March 15–17 1972).

This study investigates the outcomes for nurses who undergo two different types of adult professional socialization (in this particular case, baccalaureate or diploma school preparation) for the same work role (in this case, staff nurse in a hospital setting).

346. Stauffacher, James C. and Nauran, Leslie. "The Prediction of Subsequent Professional Activity of Nursing Students by the Edwards Personal Preference Schedule." *Nursing Research*, Vol. 17, No. 3 (May-June 1968), 256–260.

The EPPS is used to measure characteristics of the individual nursing student related to later occupational effectiveness.

347. Stein, Rita F. "The Student Nurse—A Study of Needs, Roles, and Conflicts, Part I." *Nursing Research*, Vol. 18, No. 4 (July-August 1969), 308–315.

The EPPS is used in an exploratory way to compare needs of nursing students as sophomores and as seniors in one school.

348. Stein, Rita F. "The Student Nurse—A Study of Needs, Roles, and Conflicts, Part II." *Nursing Research*, Vol. 18, No. 5 (September-October 1969), 433–440.

Dominant values of senior baccalaureate nursing students are determined and compared with those values held by the same sample as sophomores.

349. Stein, Rita F. and Green, Edith J. "The Graduate Record Examination as a Predictive Potential in the Nursing Major." *Nursing Research*, Vol. 19, No. 1 (January-February 1970), 44-47.

This study examines the relationship of results on the Graduate Record Examination and academic achievement for 35 master's degree nursing students.

350. Sternlicht, Manny and Cavallo, Mary. "Screening Techniques in the Selection of Practical Nursing." *Nursing Research*, Vol. 14, No. 12 (Spring 1965), 170–172.

The study attempts to determine screening procedures that would enable one to determine efficiently whether or not a particular candidate for a nursing course of study will be successful in completing such a program.

351. Stewart, Ruth F. and Graham, Josephine L. "Evaluation Tools in Public Health Nursing Education," *Nursing Outlook*, Vol. 16 (March 1968), 50, 51.

The public health nursing faculty at the University of Florida developed two tools for evaluating a student's learning in the public health laboratory experience: the student's progress guide and the home visit plan. When they are used together they provide a method of promoting systematic planning of family health

care and a means of collecting more objective information on which to base grades.

352. Styles, Margretta Madden. "Articulation Between Florida Public Junior Colleges and Baccalaureate Degree Nursing Programs in State Universities." Gainesville, Florida: University of Florida, 1968. *Dissertation Abstracts International,* Vol. 30 (October 1969), 1773–1774–B.

The exploitation of the community college-public university route in baccalaureate nursing education is investigated.

353. Tate, Barbara L. "Rate of Graduation in Schools of Nursing." *International Nursing Review,* Vol. 15, No. 4 (October 1968), 339–347.

The study looks at statistical information obtained about graduation of students (selected for a sample) entering three types of nursing programs in the fall of 1962. Comparisons of attrition rates, graduation rates, and reasons given by directors of nursing programs for students who did not graduate are discussed.

354. Taylor, Alton L. and Mandrillo, Margaret P. "A Survey and Analysis of Bachelor Degree Recipients from the School of Nursing of the University of Virginia, 1969–1972." Charlottesville, Virginia University of Virginia, 1973.

This study surveys 478 baccalaureate program graduates (from June 1969 to August 1972) for the purpose of followup study on new curriculum graduates and self-evaluation of the new curriculum at the University of Virginia.

355. Taylor, Calvin W.; Nahm, Helen; Loy, Lorraine; Harms, Mary; Berthold, Jeanne; and Wolfer, John. *Selection and Recruitment of Nurses and Nursing Students.* Utah: University of Utah Press, 1966.

The study is a survey of what research has been done in the area of selection in schools of nursing and related fields. The investigators are interested not only in tests, but also in all measuring devices and types of judgments used in selection programs. A total of 111 research studies are obtained in connection with the questionnaire study in 1961–62.

356. Taylor, Calvin W.; Nahm, Helen; Quinn, Mildred; Harms, Mary; Mulaik, Jane; and Mulaik, Stanley A. *Report of Measurement and Prediction of Nursing Performance, Part I. Factor Analysis of Nursing Students' Application Data, Entrance Test Scores, Achievement Test Scores, and Grades in Nursing School.* Utah: University of Utah, 1965.

This study is an outgrowth of the need for further study of criteria to be used with selection and prediction devices in the field of nursing. It is limited to analyzing certain measures of educational achievement typically used in collegiate nursing schools.

357. Taylor, Calvin W.; Nahm, Helen; Quinn, Mildred; Harms, Mary; Mulaik, Jane; and Mulaik, Stanley. *Measurement and Prediction of Nursing Performance, Part II.* Salt Lake City: University of Utah, 1966.

This exploratory research in measurement and prediction of nursing skill includes validation of performance predictors, development of new criteria for academic and on-job performance, and exploration of relationships between various criteria and predictors.

358. Taylor, J. K. "Recruiting: Nurse Power is the Answer." *RN,* Vol. 33 (April 1970), 61–63.

This study investigates the methods most effective in recruiting for nursing schools, factors influencing young people to select nursing as a career, and the age at which most young people make the decision to enter nursing.

359. Tenbrink, Carole L. "The Process of Socialization into a New Role: The Professional Nurse." *Nursing Forum,* Vol. VII, No. 2 (1968), 147–160.

The author explores how various concepts involved in self-role interaction may be applied to the relationship between student (the self) and the teacher of nursing (the representative of a social role.)

360. Theis, Charlotte and Harrington, Helen. "Three Factors that Affect Practice: Communications, Assignments, Attitudes." *American Journal of Nursing*, Vol. 68 (July 1968), 1478–1482.

This study primarily deals with identifying institutional factors perceived by baccalaureate nursing graduates as helping or hindering them in the performance of professional nursing functions, and comparing the responses of those employed in two typical hospitals and those in the Loeb Center.

361. Thomas, Barbara. "Prediction of Success in a Graduate Nursing Service Administration Program." *Nursing Research*, Vol. 23, No. 2 (March-April 1974), 156–159.

The effectiveness of student selection practices is studied. Included is the analysis of the traditional predictors—graduate record examination scores and baccalaureate grade point averages—and the criterion measures—master's GPA and GPA's associated with the various components of administration, research, clinical nursing, and perspectives in nursing.

362. Thomas, Lauraine A. "Prescriptive Education." *Nursing Outlook*, Vol. 21, No. 7 (July 1973), 450–452.

The author suggests a two-step sequence which can guarantee that continuing education will become relevant to any given field of nursing practice. They are: 1) practitioners in a specific field shall establish behavioral standards for practice, which in turn shall be based upon abstract principles uniquely relevant to that field of practice; and 2) educators shall develop continuing education content for practitioners that is based upon these specific behavioral standards for practice.

363. Thomas, Martha J. and Weinstein, Abbott S. "Comparisons of Test Scores in Psychiatric Nursing." *Nursing Outlook*, Vol. 13, No. 5 (May 1965), 38–44.

The authors compare NLN achievement test scores, State Board scores, and psychiatric nursing course grade. There was shown to be a wide variation in test performance by students of various schools of nursing, and there is variation in individual performance from one test to another.

364. Thurston, John R. and Brunclik, Helen L. *Nurse Attitudes Inventory*. Eau Claire, Wisconsin: Luther Hospital, November 1965.

This report deals with the development of the Nurse Attitudes Inventory. It provide information on how to score the inventory and current research plans for the inventory.

365. Thurston, John R. and Brunclik, Helen L. "Search or Research? The Prediction of Success in Schools of Nursing." *Nursing Outlook*, Vol. 13, No. 3 (March 1965), 38.

Preliminary evidence suggests that nursing school applicant performance on the Luther Hospital Sentence Completions, as scored by the Nursing Education Scale, Preliminary Form, is related to whether or not the students are still in school at the time they are evaluated some 2 years after preadmission testing.

366. Thurston, John R.; Brunclik, Helen L.; and Feldhusen, John F. "Personality and the Prediction of Success in Nursing Education." *Nursing Research*, Vol. 18, No. 3 (May-June 1969), 258–262.

This report discusses Phase III of a study designed to further refine and validate techniques which could contribute to the accuracy of prediction of student success in nursing schools and to an understanding of factors connected with nursing student performance.

367. Thurston, John R.; Brunclik, Helen L.; and Feldhusen, John F. *The Prediction of Success in Nursing Education—Phase I and Phase II, 1959–1967.* Eau Claire, Wisconsin: Luther Hospital, 1967.

A summary of the results of Phase I and Phase II of this study is presented, with discussion of each of the measures used in the prediction of success in nursing education.

368. Thurston, John R.; Brunclik, Helen L.; and Feldhusen, John F. *The Prediction of Success in Nursing Education, Phase III, 1967–1968.* Eau Claire, Wisconsin: Luther Hospital, 1968.

Phase III of this study is a further analysis of the relationship of personality to achievement status. The design involves a partial replication of research previously reported in Phase I. Phase II differed from Phase I in that it was not concerned with applicants who were rejected nor with an investigation of high school rank and PNG performances. Phase III was planned as a 4-year program. The design is described fully. However, inasmuch as research support was forthcoming for only 1 year, many of the specific aims could not be accomplished fully. This report describes partial accomplishment of some of the specific aims.

369. Thurston, John R.; Brunclik, Helen L.; and Feldhusen, John F. "The Relationship of Personality to Achievement in Nursing Education, Phase II." *Nursing Research,* Vol. 17, No. 3 (May-June 1968), 265–268.

This study focused on the relationship of personality to achievement in nursing education. Phase II, reported here, was largely a replication of the original research.

370. Tillinghast, B.S., Jr. and Norris, Betty. "Let's Examine—The Relation of Selected Admission Variables to Student Achievement." *Nursing Outlook,* Vol. 16 (July 1968), 58.

A brief summary of the relation of selected admission variables to student achievement is presented. The investigation at the University of Virginia School of Nursing in Charlottesville is based on the records of 219 students who were graduated from the school of nursing in the years 1962–66.

371. Trapp, D.; Pailthorp, K.; and Cope, R. "Entrance Characteristics and Their Relationship to Types of Student Dropouts. Washington State University Institutional Research and Institutional Policy Formulation." *11th Annual Forum of the Association for Institutional Research,* 1971. Claremont: Office of Institutional Research, (December 1971), 119–122.

The purpose is to relate causes of attrition to a wide range of characteristics of both the students and the institutions involved. The research follows a congruence model which views attrition as a function of the "fit" between needs, interests, and abilities of the student and the demands, rewards, and constraints of particular settings.

372. Treece, Eleanor Mae. *Vocational Choice and Satisfaction of Licensed Practical Nurses,* New York: National League for Nursing, 1969.

The study is designed to explore factors that characterize persons who have selected practical nursing as a career, to describe the satisfactions of those who have remained in the field, and to find out why some individuals have left.

373. Trussell, Richard P. and Pappas, James P. "Some Variables for Student Nurse Selection." Report No. 47, Rocky Mountain Psychological Association, University of Utah, May 1974.

This study is designed to compare measures of self-actualization, biographical data, and academic performance as predictors of effective nursing criteria.

374. Uhlaner, J. E. "Human Performance Effectiveness and the Systems Measurement Bed." *Journal of Applied Psychology*, Vol. 56 (June 1972), 202–210.

The major hypothesis of this article concerns the way aptitudes, job demands, and surrounding conditions coalesce to yield varying levels of performance.

375. Vaz, Dolores. "High School Senior Boys' Attitudes Toward Nursing as a Career." *Nursing Research*, Vol 17, No. 6 (November-December 1968), 533–538.

The study is done in an effort to identify some of the attitudinal factors which might tend to prevent men from entering the nursing career.

376. Verhonick, Phyllis J.; Nichols, Glennadee A.; Glor, Beverly, A. K.; and McCarthy, Rosemary T. "I Came, I Saw, I Responded: Nursing Observation and Action Survey." *Nursing Research*, Vol. 17, No. 1 (January-February 1968), 38–44.

Filmed patient situations are used to examine the responses of 1,576 professional nurses to identify the nuances which the nurse observes in a patient's condition that leads her to take a specific nursing action.

377. Vogelberger, Mary Louise. "The Professional Adustment and Growth of the New Graduate." *Journal of Continuing Education in Nursing*, Vol. 2, No. 5 (September-October 1971), 21–27.

This discussion presents a brief look at the problem of adjustment and growth of the new graduate nurse in current hospital situations. It observes that students and new graduates have great individual potential. This potential must be recognized and utilized by both nursing education and services.

378. Waters, Verle H.; Vivier, Mary Louise; Chater, Shirley S.; Urrea, Judithe H.; and Wilson, Holly Skodol. "Technical and Professional Nursing: An Exploratory Study." *Nursing Research*, Vol. 21, No. 2 (March-April 1972), 124–131.

This study is conducted to 1) describe technical and professional nursing as practiced in clinical settings, 2) determine whether directors of nursing in hospitals that employ graduates of both AD and baccalaureate programs observe and report differences in nursing practice between the two, and 3) ascertain whether head nurses who supervise graduates of both programs note the differences.

379. Weinberg, E. and Rooney, J. F. "The Academic Performance of Women Students in Medical School." *Journal of Medical Education*, Vol. 48 (March 1973), 240–247.

A survey of major measures of academic performance of men and women in medical school reveals that although women's performance in the early years is slightly, but consistently, lower than that of men, overall academic performance is equal by the senior year.

380. Weiss, Olga. "Motivation to Enter Nursing: Eligible Applicants to Nursing Schools in Israel—1968." *International Journal of Nursing Studies*, Vol. 7 (1970), 135–151.

The study is made to determine what motivates young people to enter nursing and whether propaganda methods used for nurse recruitment in Israel are useful. Questionnaires are sent to applicants selected as potential nursing students and are composed of questions related to cultural or ethnic background, age, number of siblings, father's education and similar family matters, secondary career interests, concepts about nursing as a career, various forms of recruitment propaganda and material, and volunteer youth service.

381. Weitman, Morris and Meyer, Ernest. "A Study of Long-Term Retention in Nursing Students." *Nursing Re-*

*search*, Vol. 14, No. 2 (Spring 1965), 167–170.

This study is concerned with the relative permanence of knowledge of subject matter acquired by nursing students in a regularly scheduled course. A second focus is the extent to which such long-term retention can be predicted from standard objective measures of aptitude for nursing.

382. White, Catherine Harman and Maguire, Maureen Claire. "Job Satisfaction and Dissatisfaction Among Hospital Nursing Supervisors: The Applicability of Herzberg's Theory." *Nursing Research*, Vol. 22, No. 1 (January-February 1973), 25–28.

The descriptive study attempts to identify factors which nursing supervisors in general hospitals describe as consistently leading to job satisfaction and dissatisfaction and to assess the validity of Herzberg's motivation-hygiene-theory.

383. White, George D.; Moore, Lucille R.; and Willman, Marilyn D. "A Format for Presenting Enrollment and Persistence Figures." *Nursing Research*, Vol. 17, No. 3 (May-June 1968), 264, 265.

A new format for visual representations for more accurate and meaningful data relative to enrollment, withdrawal, and retention of student populations is presented.

384. Willett, Elizabeth A.; Riffel, Rev. Pius A.; Breen, Lawrence J.; and Dickson, Sister Elinor J. "Selection and Success of Students in a Hospital School of Nursing." *The Canadian Nurse*, Vol. 67 (January 1971), 41–45.

The study reports on the predictability of specific psychometric instruments in relation to success during a 3-year period, as well as on the Registered Nurses' Association of Ontario (RN) examinations; efficacy of pre-entrance screening procedures in nursing candidate selection; and the factors differentiating successful candidates from those who withdrew from the program, those accepted candidates who did not come into the program, and those candidates who were rejected.

385. Wilson, Barry J. *The Job Performance of Nursing Graduates: A Program Evaluation.* Michigan: Delta College, Office of Research and Development and the Division of Nursing. (No date known).

The study is designed to assess potential strengths and weaknesses of of nursing preparation and training as reflected in job performance of graduates, and also to investigate the predictive relationship of measures of scholastic success, such as GPA and Nursing Board Scores with graduate job performance.

386. Wilson, Barry J. and Packwood, Gene. "Evaluation and Prediction of Rated Job Performance of Nursing Graduates." American Educational Research Association, 1975 Annual Meeting.

An investigation of the postgraduate job status and performance of associate degree nursing graduates is reported.

387. Wilson, Christopher. "The Effects of Cloisterization on Students of Nursing." *American Journal of Nursing*, Vol. 70, No. 8 (August 1970), 1726–1729.

Student nurses saw nursing as a dull, frustrating profession from which escape seemed impossible because of their investment in time, money, and effort. The only out these bored students see is to flee hospital practice upon graduation. Although they do not blame the schools for the lack of stimulation, they feel their cloistered situation is a significant factor.

388. Wise, Barbara B. "A Taxonomy Approach . . . Implications for Performance." *Journal of Continuing Education in Nursing*, Vol. 3, No. 4 (July-August 1972), 9–16.

The author argues that each nurse must accept the responsibility of knowing on which level she is performing. She must be aware of the next step forward and strive to reach the next goal toward a higher level of professional competency. The taxonomy approach is suggested as a means of assisting the practitioner and increasing the effectiveness of the continuing educator as a change agent in the process.

389. Wittmeyer, Alma L.; Camiscioni, John S.; and Purdy, Patricia A. "A Longitudinal Study of Attrition and Academic Performance in a Collegiate Nursing Program." *Nursing Research*, Vol. 20, No. 4 (July-August 1971), 339–347.

A longitudinal study conducted to discriminate among three groups of baccalaureate nursing students: those who successfully completed the program, those who transferred from nursing to other colleges, and those who dropped out from higher education.

390. Wolff, Richard and Wasden, Ronald. "Measured Intelligence and Estimates by Nursing Instructors and Nursing Students." *Psychological Reports*, Vol. 25 (1969), 77, 78.

Several estimates of intelligence of senior nursing students are compared with actual intelligence test scores, as measured by the Wechsler Adult Intelligence Scale.

391. Wood, Lucille. "Proposal: A Career Plan for Nursing." *American Journal of Nursing*, Vol. 73, No. 5 (May 1973), 832–835.

The author presents a five-step proposal, which she sees as a sound method for developing nursing practitioners who could give nursing care in any agency. Each stage would include increased and cumulative areas of competence in nursing practice, decision-making, problem-solving and in administrative, teaching, and communicative skills. She contends that such an approach would realistically use the skills of every member of the nursing work force to provide high quality nursing care.

392. Wood, Vivian. "Understanding Psychometric Tests, Part I." *The Canadian Nurse*, Vol. 61, No. 4 (April 1965), 279–282.

A review of the various tools that may be used by nursing personnel in the selection of student nurses is presented, with main emphasis on psychometric preadmission nursing tests and their utilization in a school of nursing.

393. Wood, Vivian. "Understanding Psychometric Tests, Part II." *The Canadian Nurse*, Vol. 61, No. 5 (May 1965), 376–380.

A description and analysis is given of three prenursing admission tests: the George Washington University Series Nursing Tests; the Psychological Corporation Entrance Examination for Schools of Nursing; and the National League for Nursing Pre-Nursing and Guidance Examination. Each test is discussed under four main headings: purposes and uses, structure, evaluation, and summary.

394. Woodruff, Norma Lowyn. "Nursing as a Vocational Choice by Vermont High School Girls." New York: Columbia University, 1969. *Dissertation Abstracts International*, Vol. 30 (November 1969), 1834–A.

The purpose of this study is to determine some of the factors associated with the selection of nursing as a vocation and the selection of a particular type and location of educational program in nursing by senior high school girls in Vermont.

395. Wren, George. "Some Characteristics of Freshman Students in Baccalaureate, Diploma, and Associate Degree Nursing Programs." *Nursing Research*, Vol. 20, No. 2 (March-April 1971), 167–172.

This study attempts to determine if there were any significant differences in those variables which led nursing students to select their par-

ticular type of nursing program from the three available to them.

396. Wrigley, Margaret Hutchinson. "A Study of the Relationships Between the Scores of Practical Nurses on the *Licensing Examination and Ratings* of Their Performance on the Job." Tallahassee, Florida: Florida State University, 1968. *Dissertation Abstracts International*, Vol. 30 (November 1969), 1763–A.

Some 107 LPNs are rated with the use of the NLN licensing examination and an adaptation of the Descriptive Rating Scale as used by the U.S. Employment Services. It is concluded that the job performance rating scale and licensing examination measure different content and different dimensions of nursing.

397. Yates, Judith. "Breakthrough in Minnesota." *American Journal of Nursing*, Vol. 70, No. 3 (March 1970), 563–565.

The National Student Nurses Association designates Minneapolis one of three target cities for "Project Breakthrough in Nursing." This is a demonstration program to increase the enrollment of Black, Indian, and Spanish American students in nursing education programs throughout the country.

398. Zungolo, Eileen E. Hendrick. "A Systems Analysis of Clinical Laboratory Experiences in Baccalaureate Nursing Education." New York, New York: Columbia University, 1972. *Dissertation Abstracts International*, Vol. 32–A. (1972), 6697–A.

An in-depth, descriptive study is conducted to identify and describe mechanisms operating in clinical laboratory experiences in a baccalaureate nursing program.

## Section IV.

## AUTHOR INDEX

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# Appendix I.–B

## KEY TO ABBREVIATIONS

| | |
|---|---|
| ACE | American Council on Education Psychological Exam |
| ACL | Adjective Check List (Gough) |
| ACT | American College Testing Program |
| AES | Accurate Empathy Scale (Truax) |
| APAS | Activities Preferences Achievement Scale |
| APHA | American Public Health Association Exam |
| AVL | Allport-Vernon-Lindzey Study of Values |
| BARS | Bi-Polar Adjective Rating Scale |
| CAT | California Achievement Test |
| CAVD | Thorndike I.E.R. Intelligence Scale |
| CCQ | California Capacity Questionnaire |
| CGPA | College grade point average |
| CPI | California Psychological Inventory |
| CTMM | California Test of Mental Maturity |
| CTP | California Test of Personality |
| DAP | Draw-A-Person |
| DRS | Diagnostic Reading Scale |
| DS | Dogmatism Scale (Rokeach) |
| DSNP | Descriptive Scale for Nursing Performance |
| EPPS | Edwards Personal Preference Schedule |
| FIRO–B | Fundamental Interpersonal Relations Orientation-Behavior |
| GPA | Grade point average |
| GPI | Gordon Personal Inventory |
| GPP | Gordon Personal Profile |
| HSGPA | High school grade point average |
| IAV | Index of Adustment and Values (Bill's) |
| IPAT ASQ | Institute for Personality and Ability Testing-Self Analysis Form |
| ITED | Iowa Tests of Educational Development |
| KPR | Kuder Preference Record |
| KPR–V | Kuder Preference Record-Vocational |
| KPR–O | Kuder Preference Record-Occupational |
| KPR–P | Kuder Preference Record-Personal |
| LHSC | Luther Hospital Sentence Completion |
| LOQ | Leadership Opinion Questionnaire |
| LTI | Lee Thorpe Interest Inventory |
| MAS | Manifest Anxiety Scale |
| MAT | Motivation Analysis Test (IPAT) |
| MBTI | Myers-Briggs Type Indicator |
| MMPI | Minnesota Multiphasic Personality Inventory |
| NAI | Nurse Attitudes Inventory |
| NAT | Nursing Achievement Test |
| NES | Nursing Education Scale |
| NGPA | Nursing grade point average |
| NLN | National League for Nursing Achievement Tests |
| NLN PNG | National League for Nursing Pre-Nursing Guidance |
| NPDS | Nurse Performance Description Scale |
| NPIT | Nursing Picture Item Test |
| NSC | Nursing Sentence Completion |

| | |
|---|---|
| OMI | Opinions Toward Mental Illness |
| OPI | Omnibus Personality Inventory |
| OTIS | Otis Self Administering Test of Mental Ability |
| PCT | Psychological Corporation Tests |
| PCT PNE | Psychological Corporation Tests-Pre-Nursing Exam |
| POI | Personal Orientation Inventory (Shostrom's) |
| PREFS | Preferences Checklist |
| PS | Proverbs and Sayings Checklist |
| RAT | Remote Associates Test |
| RI | Relationship Inventory |
| RISB | Rotter Incomplete Sentence Blank |
| SAT | Scholastic Aptitude Test |
| SBTPE | State Board Test Pool Examination |
| SCAT | School and College Ability Test |
| 16 PF | Sixteen Personality Factor Questionnaire |
| SIT | Social Interaction Test |
| SRI | Self Report Inventory (Brown's) |
| SVIB | Strong Vocational Interest Blank |
| SVIB–W | Strong Vocational Interest Blank for Women |
| SVIB–M | Strong Vocational Interest Blank for Men |
| TAT | Thematic Apperception Test |
| TAV | Toward, Away, Versus Selection System |
| TST | Twenty Statements Test |
| TTMA | Thurstone Test of Mental Alertness |
| VPI | Vocational Preferences Inventory |
| WAIS | Wechsler Adult Intelligence Scale |
| WGCTA | Watson-Glaser Critical Thinking Appraisal |
| WICHE | Western Interstate Commission for Higher Education |

# Prediction of Successful Nursing Performance

## Part II.

# ADMISSION PRACTICES, EVALUATION STRATEGIES, AND PERFORMANCE PREDICTION AMONG SCHOOLS OF NURSING

PATRICIA M. SCHWIRIAN, PH.D.
Project Director
Associate Professor
School of Nursing
The Ohio State University

With the assistance of:

SUSAN M. BASTA, R.N., M.S.
JEAN G. LARABEE, R.N., B.S.
Research Associates

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# I. AN INTRODUCTION TO THE STUDY

The problems and issues surrounding the prediction of success in preprofessional education and in practice are crucial in the process of maintaining and improving the quality of service rendered by any profession. They are even more critical in the health professions. The ability to define and predict "success" and "effectiveness" in nursing is of particular import, because attrition from basic nursing education, as well as attrition from nursing practice, is relatively substantial. In a period of increasingly costly education for nurses and a rapidly expanding need for nursing services of all kinds, these attrition rates are becoming a luxury we can ill afford.

These problems and issues have not gone unrecognized nor unattended. A sizeable literature has dealt with elements of selection for nursing schools, attrition from schools of nursing, and success in school and in practice; however, most tend to be limited by boundaries of geography, small numbers, and relatively limited objectives. Mention of these constraints is not meant to imply criticism of the investiga- is simply to emphasize the need for a study that is national in scope and based on data from the broad spectrum of institutions of nursing education and their graduates. Moreover, the definition of successful or effective nursing is undergoing significant modification, and the obectives and instructional activities of many schools are reflecting this role and practice tors who have worked in these areas; the aim redefinition.

*PURPOSES OF THE STUDY:* This study was intended to fulfill the need for a study, national in scope, which focused directly on the issues of success in nursing education and effective nursing practice. The two maor objectives were: 1) to determine the relative effectiveness of predictors of successful nursing performance in use by schools of nursing to evaluate student progress; and 2) to determine the relative effectiveness of predictors of successful nursing performance in use by schools of nursing to determine on-the-job success.

*OVERVIEW OF THE STUDY:* This study, Prediction of Successful Nursing Performance (initiated in June 1974), was conducted in three phases. The first phase was a comprehensive critical review of the 1965 through 1975 literature related to the identification and utilization of predictors of nursing success. "Prediction of Successful Nursing Performance. Part I: A Review of Research Related to Prediction of Nursing Performance, 1965–1975," is a summary of the major findings and trends noted in the literature reviewed and includes an annotated bibliography by research topic and recommendations for future research efforts thought to have promise.

The second phase of this study was the development and administration of a questionnaire to a representative national sample of 10 percent of all basic professional schools of nursing. These data provided information on: 1) the adequacy and use of known criteria for predicting successful nursing performance in school; 2) alternative criteria considered promising by the schools; 3) operational definitions of "a successful nurse" and of "effective nursing performance"; and 4) the identification of a cohort of students who graduated in spring 1975, considered to have the most potential for being successful in nursing practice. The data provided by the sample of nursing schools are the basis of this Part II report.

The aim of the third phase of the study was to ascertain the relative success of the selected beginning practitioners in the work setting, via self-appraisals and appraisals from the supervisory perspective. This phase involved the development, administration, and analysis of data from two more questionnaires. The responses by the representatives of the sampled nursing schools were used as one of the bases for the development of this set of questionnaires; the literature review provided the other major source of input.

Students selected by the sampled schools as having the most promise of functioning as successful nurses and a randomly selected "control" group of spring 1975 graduates from the same schools constituted the study sample of the population of beginning practitioners in the nursing profession. The participating graduates provided relevant retrospective data regarding their nursing education, their basic demographic characteristics, job information, and self-appraisals of their own performance. They also identified their immediate superior and gave us permission to ask this individual to participate in the study. The immediate superiors provided some basic demographic information about themselves, some information about their professional background, and appraisals of the performance of the beginning nurses who had provided their names.

The performance evaluation data so obtained were then related back to the "success predictions" which had been made by the participating schools of nursing in the second phase of the study. "Prediction of Successful Nursing Performance Project Report Part III: Evaluation and Prediction of the Performance of Recent Nursing Graduates" (currently unpublished) provides a description of the conduct and findings of this final phase of the study.

# II. GENERAL CHARACTERISTICS OF RESPONDING SCHOOLS OF NURSING

Tables II.–1 through II.–6 (see appendix II.–A for tables and figures) contain data that provide a general description of the 150 schools of nursing that participated in the first data collection phase of the study. Since the study requirements specified that a sample of no less than 10 percent of all accredited schools of nursing in the United States should participate, strenuous efforts were made to assure the necessary numbers of respondents. We were also concerned with maintaining as nearly as possible the desired respondent ratios among the 24 cells which were defined by the use of a three-variable stratified random sampling procedure. As seen in table II.–1, the three stratifying variables were: (1) type of nursing program; i.e., associate degree, diploma, baccalaureate; (2) geographic region in terms of the four regions defined by the National League for Nursing (see below); and (3) source of financial support; i.e., public or private. A comparison of the actual number of responding schools and the number desired for each cell indicates adherence to the sampling strategy. In some cells the actual number of respondents was higher than the desired number; these "extra" respondents came from two sources. First, some consenting schools failed to return their questionnaires within a reasonable amount of time despite numerous followup measures; hence back-up schools were selected to replace them. Occasionally, the presumed nonrespondents eventually did return their questionnaires as did the back-up schools selected to replace them; so all were included as respondents. The second source of extra schools was comprised of a group of schools whose directors provided information about their schools but would not provide the names and addresses of their 1975 graduates. In some cases, refusal to provide names and addresses was against established school policy; in others, it was based on the director's interpretation of existing or pending rights-to-privacy legislation. We also selected back-up schools for these respondents. Therefore, while schools who did not provide names of their 1975 graduates cannot be included in the analysis of the actual nursing graduate performance and prediction of performance (Project Report, Part III), the description of school policies and procedures regarding admission, progression, and evaluation of students has been included in this report.

Table II.–2 contains the distribution of schools by type, region, and financing who were asked to participate, but who did not. It may be seen that the non-participants—30 percent of all those who were contacted—tended to be equally distributed both by program type and by region. While the nonparticipation rate among the nursing schools in the North Atlantic region was highest (42 percent), a chi-square calculation did not show the regional differences to be significant.

One school characteristic of interest was the length of time the nursing schools had been in operation. The data in table II.–3 show that the diploma schools were by far the oldest—98 percent had been in operation for 10 years or more. The associate degree programs were almost equally divided among three categories: 5 years or fewer, 6–10 years, and over 10 years in operation. Of the baccalaureate schools, one-third had been operational for 6 to 10 years and almost 60 percent had been in operation for more than 10 years.

The director of each responding school was also asked to provide the total enrollment by sex designation as of autumn 1975; the results appear in tables II.–4 and II.–5. The average total number of students enrolled in baccalaureate programs (328) was over twice the average total number of students enrolled in either A.D. (135) or diploma (155) programs. Further, the average class size for the diploma schools (assuming a 3-year program) was the

## Regions as Defined by the National League for Nursing

**Region I, North Atlantic:**

Connecticut
Delaware
District of Columbia
Maine
Massachusetts
New Hampshire
New Jersey
New York
Pennsylvania
Rhode Island
Vermont

**Region II, Midwest:**

Illinois
Indiana
Iowa
Kansas
Michigan
Minnesota
Missouri
Nebraska
North Dakota
Ohio
South Dakota
Wisconsin

**Region III, South:**

Alabama
Arkansas
Canal Zone
Florida
Georgia
Kentucky
Louisiana
Maryland
Mississippi
North Carolina
Oklahoma
Puerto Rico
South Carolina
Tennessee
Texas
Virgin Islands
Virginia
West Virginia

**Region IV, West:**

Alaska
American Samoa
Arizona
California
Colorado
Guam
Hawaii
Idaho
Montana
Nevada
New Mexico
Oregon
Utah
Washington
Wyoming

smallest of the 3 types of programs—just slightly over 50 students per class.

Given the interest in affirmative action in general and in increasing the number of men in nursing in particular, the percent of male enrollment was computed for each school and summarized in table II.–5. The proportion of men nursing students was generally quite low (under 7 percent), the one notable exception being within the group of 4 schools that were sampled among the publicly supported baccalaureate schools in Region III (South)—almost one-third of their students were men. In only one of the other cells did the percent of men students exceed 10 percent (A.D., West, Private—14.4 percent), and in 10 of the sampling cells, men constituted 5 percent or fewer of the nursing students.

The last general school characteristic that was considered necessary to the description of baccalaureate programs was the point at which students entered the school or college of nursing. Table II.–6 shows that the sophomore year in college was the one during which two-thirds of the schools admit students to the nursing program: half in the autumn and half at mid-year. Slightly over one-fourth of the schools admitted their students as freshmen, with most of these admitted at the beginning of the academic year. Due to this variety of admission patterns, it was obviously inappropriate to calculate even a very rough "average" class size for baccalaureate schools of nursing.

## Summary

1. Participating respondents in this study were a stratified random sample of slightly over 10 percent of all basic schools of nursing in the United States. Stratifying variables were type of program, geographic region, and type of financing. Thirty per-

cent of those who were asked to participate did not do so.

2. Nonrespondents were similarly distributed according to each of the stratifying variables.
3. The majority of schools had been in operation for 10 years or more. Diploma schools were the oldest; nearly all had been in operation 10 years or more. Associate degree programs were the youngest; almost a third had been in operation for fewer than 6 years.
4. Average total enrollment in the baccalaureate schools in 1975 was about twice as large as average total enrollment in either A.D. or diploma programs. Diploma schools of nursing had the smallest average class size: approximately 50 students per class.
5. Fewer than 7 percent of the nursing students enrolled in 1975 were men. There was no significant difference in average percent enrollment of men either by school type or by region.
6. Among the baccalaureate schools of nursing, students were most commonly admitted in their sophomore year of college, and almost all schools had only one admission point for students.

# III. ADMISSION CRITERIA USED BY RESPONDING SCHOOLS OF NURSING

The first of many steps on the way to becoming a successful nurse is that of gaining admission to an accredited, basic school of nursing. The admission criteria used by schools of nursing to select students from among all the applicants reflect the faculty and administrators' judgments of the indicators that are most likely to identify the student who can succeed in school and succeed in practice. Therefore, it was deemed important to describe the admission criteria used by the responding schools of nursing to select their students.

In Section II.–A of the Nursing School Questionnaire (see appendix II.–B), respondents were asked to indicate which of 18 criteria they considered when selecting nursing students from the pool of applicants. They were also asked to identify those admission criteria (up to a maximum of four) that they considered most critical in their student selection processes. The data in tables II.–7 and II.–8 show that the top-ranking criteria in terms of use are: health data (84 percent), high school rank, and grade point average (72 percent each). Interviews with applicants and college grade point average were considered as criteria by two-thirds of the respondents, and over half reported using the applicants' biographical data and personal references. Scores on the American College Testing program (ACT) and the Scholastic Aptitude Test (SAT) were considered by half the respondents, and a third reported using autobiographical essays prepared by the applicants. Criteria that were listed, but used by 10 percent or fewer of the respondents, included ethnic and racial background, the Minnesota Multiphasic Personality Inventory (MMPI), the educational level of the applicants' parents, and the applicants' religious affiliations.

The frequency of use of many of the listed criteria vary by type of nursing school and by region. The data in table II.–7 show that among the three types of nursing programs, diploma schools reported significantly higher frequency of use of: health data, high school rank and GPA, applicant interviews and biographical data, personal references, SAT and NLN test scores, and the applicants' autobiographical essays. There were fewer significant differences by region (see table II.–8). High school rank and SAT scores were used by significantly higher proportions of North Atlantic region schools and lower proportions of West region schools. Conversely, college grade point average was used by almost 95 percent of the schools in the West region and by only slightly more than half of the North Atlantic region schools. The use of ACT scores is significantly more predominant in the Midwest region (78 percent) than in the other three regions, and the use of NLN scores was most prevalent among the schools in the North Atlantic region (37 percent).

Respondents were also asked to provide the names of any alternative selection criteria they use but which were not listed in the questionnaire. The alphabetic listing of these alternative criteria and the frequency with which they were cited appear in table II.–9. Most criteria or measures were only listed by one or two respondents. The exceptions to this pattern were: the School and College Ability Test (N=8), the Psychological Corporation Pre-Nursing Examination (N=5), Comparative Guidance and Placement Test (N=4), Dent Psychometric Exam (N=4), and the applicant's previous work experience (N=4).

While applicants for admission to a school of nursing may be expected to provide a variety of information about themselves, the various pieces of information are not likely to be weighted equally by those who make the admissions decisions. Quite simply, some factors are more important than others. In an effort to identify what these more important factors are, we asked the respondents to check the four admission criteria that are the *most critical* in selection of students for their programs. Table II.–10 shows the list of the most critical criteria in decreasing order of frequency of citation, as well as whether or not there were significant differences in frequency of citation either by school type or by region. High school grade point average was the criterion most commonly included in the four most critical criteria—41 percent of the respondents cited it. No significant differences existed by either school type or by region. Somewhat over a third of the respondents reported each of the following to be among their four most critical admission criteria: ACT scores, high school rank, an interview with the applicant, health data, and college grade point average. Almost a third included scores on the SAT. Therefore, of the seven most frequently cited critical admission criteria, all but two were indicators of prior academic achievement in cognitive performance areas.

Applicant interviews appear to be most popular among diploma schools, as are personal references and NLN test scores. Significant regional differences include a heavier reliance in the Midwest on ACT scores and in the North Atlantic region on high school rank, SAT scores, and NLN test scores.

Since the different school types were not represented equally within the four geographic regions, it was necessary to determine whether observed significant differences were simply artifacts of the unequal distribution. Therefore, the distribution of responses by school type controlling for region and the distribution of responses by region controlling for school type were also calculated for both the use of admission criteria and inclusion of criteria as critical. The data in table II.–11 show that, when region is controlled. the differences among types of schools in their reported use of health data, high school rank and grade point average, and college grade point average are no longer significant. In general, however, even when controlling for region, diploma schools of nursing report a significantly higher use rate of interviews, biographical data, personal references, autobiographical essays, and NLN test scores. It is notable that in the West region there were no significant differences among the school types in their reported use of any of the admission criteria.

The data in table II.–13 specify the regions in which significant differences exist in the number of schools of each type, including each admission criterion in the four most critical categories. In four of the given incidences where significant differences among school types exist, they exist in only one region. For example, significantly more of the diploma schools in the North Atlantic region included the SAT among the four most critical admission criteria; this was not the case in any of the other three geographic regions. Likewise, only in the South region did significantly more diploma schools include personal references as a most critical criterion. Once again, the responses of the three types of nursing schools in the West region were not significantly different.

In order to specify the conditions under which regional differences existed in the use and importance of admission criteria, the distribution of responses by region, controlling for school type, were calculated; the data appear in tables II.–12 and II.–14. Most of the overall significant differences among regions (see tables II.–8 and II.–10) held up in at least one school type category. The criterion of high school rank was used most commonly by both A.D. and baccalaureate schools in the North Atlantic region and least often in the West region. SAT scores were most frequently used in the North Atlantic by all types of schools; the significantly higher use of NLN test scores in the North Atlantic region existed only among the diploma schools of nursing. Significant regional differences in the four most critical criteria were maintained only among diploma schools.

## Summary

1. The five most commonly used criteria for admission to the responding schools of nursing were health data, high school rank, high school grade point average, applicant interview, and college grade point average. Each was reported in use by at least two-thirds of the schools.
2. A significantly higher overall use rate was reported by diploma schools for nine admission criteria: health data, high school

rank and grade point average, applicant interview and biographical data, personal references, SAT and NLN scores, and autobiographical essays. Diploma schools had a significantly lower use rate of college North Atlantic region reported using high grade point average.

3. Significantly more nursing schools in the school rank, SAT scores, and NLN test scores than did schools in the other three regions.

4. The use and value of various admission criteria vary most types of schools in the North Atlantic and South regions and least among nursing schools in the West region.

# IV. PREDICTION OF STUDENT PERFORMANCE BY SCHOOLS OF NURSING

The prediction of the success of students while still in nursing school has been the subject of many research efforts reported during the past 10 years. The most common indicators of this success have been the students' grade point averages and whether or not they stayed in the nursing program or dropped out prior to graduation. While the predictive measures, like the findings, are a mixed bag, the general conclusion is that academic success begets academic success. However, there are elements of successful program completion as well as academic success. In an effort to determine the extent of use of predictive measures by schools of nursing, as well as the respondents' perceptions of the measures' predictive values, they were asked to identify tests that are administered to their students either prior to or following admission and to rate the value of the instruments as predictors in four areas of student performance: (1) academic performance; (2) clinical performance; (3) program completion; and (4) achievement on State Board examinations.

*USE OF MEASURES:* Respondents were asked to report whether or not they used any of a list of 19 standardized measurement instruments as predictors of the subsequent performance of their nursing students. The 19 measures were identified for inclusion in the questionnaire list according to two major criteria: first, that each had been used in at least two published studies of nursing student performance; and second, that each was included for description and review in Buros' *Seventh Mental Measurements Yearbook* or *Personality Test and Review*. The list includes eight instruments that assess cognitive attributes, six instruments that are purported to measure various personality traits, three attitudinal inventories, and two measures of vocational interest.

It is clear from the data in table II.–15 that the only predictive measures used to any degree in schools of nursing are three measures of cognitive performance. Over half of the respondents reported using data from both the NLN tests for new students and the American College Testing Program (ACT), and almost half reported using the Scholastic Aptitude Tests (SAT) as a source of predictive data. Fewer than 3 percent of the respondents used *any* of the other cognitive, personality, attitudinal, or vocational assessment tools that were listed.

Respondents were also asked to list any predictive measures used in their programs that did not appear in the list. A total of 45 different instruments were listed by the respondents (see table II.–16). Two-thirds of the predictors were reported in use by only one respondent each. The School and College Ability Test (SCAT) was used by four schools; five other instruments were used by three schools each: three of these instruments were achievement tests, one was a psychological inventory, and one was a "guidance" instrument.

Thus, it would appear that while the nursing education literature contains reports of a wide variety of student performance prediction efforts, few schools, in practice, collect any predictive data about their incoming students beyond a limited number of measures of cognitive achievement and/or potential.

*PERCEIVED PREDICTIVE VALUE OF MEASURES:* In the same section of the questionnaire, respondents were asked to evaluate the predictive capabilities of the measures they used in terms of four areas of nursing student performance: (1) academic performance, (2) clinical performance, (3) program completion, and (4) achievement on State Board examinations. Since only three measures were used by a substantial number of respondents, the perceived predictive values for these three only are shown in tables II.–17 and II.–18. Respondents who both used and evaluated the measures indicated that they considered the ACT and SAT scores as having moderate to great significance in predicting academic performance, and that NLN test scores were judged to have moderate significance in this area. All three measures were considered to have moderate significance in predicting State Board examination scores. The predictive capabilities of the ACT, NLN, and SAT scores were evaluated as of little to moderate significance in predicting students' probabilities of completing the program in nursing school, and all three were considered of little significance in predicting clinical performance.

These evaluations, which are, presumably, based on the respondents' experiences in nursing education, are consistent with the findings of a number of smaller single-site studies. Most simply stated, academic achievement is best predicted by indicators of prior academic achievement. But program completion and clinical performance are obviously different behavioral entities, and measures of a purely cognitive/academic nature are not sufficient to successfully predict behaviors in these two important areas.

Table II.-17 shows also that, with two exceptions, respondents from all three types of schools rated the ACT, NLN tests, and SAT similarly as predictors of student performance in the four performance areas. Baccalaureate school respondents rated the value of NLN tests as a predictor of academic performance significantly lower than respondents in A.D. and diploma schools, and baccalaureate respondents who used the SAT scores rated their predictive capability for academic performance significantly higher than diploma or A.D. users of that test. The low F ratios in table II.-18 indicate that respondents in the four regions do not vary significantly in their perceptions of the predictive value of the ACT, NLN, or SAT examinations.

## Summary

1. Only three predictive measures of student performance are administered to nursing students by any substantial number of responding schools. About half the respondents reported using the ACT, the NLN prenursing examinations, or the SAT.
2. Any measures of noncognitive attributes, such as personality and attitudes, were used by fewer than 4 percent of the responding nursing schools.
3. The ACT, NLN, and SAT scores were judged by respondents to be of moderate value in predicting academic achievement and State Board Examination performance, but of little value in predicting either clinical performance or persistence in the nursing program.
4. Respondents in all three types of schools and in all four regions evaluated the predictive capabilities of the ACT, NLN, and SAT similarly.

# V. EVALUATION OF STUDENT PROGRESS IN NURSING SCHOOL

As a student proceeds through nursing school, it is necessary to evaluate and document progress toward the objectives that have been established for successful completion of the nursing program. Because evaluation procedures used by schools of nursing were of interest in this study, respondents were asked to report which performance measures—theory, clinical, and skills—are used in their schools, as well as rate the importance of each measure as employed in their evaluation strategy. Table II.–19 shows the number of schools that reported using each type of performance measure that was listed in the questionnaire and the mean rating of importance which they gave each measure. Teacher-made examinations were used by all schools, and they were rated as very important: Term papers and oral examinations were used by 91 percent of the respondents; these users evaluated them as moderately important in evaluating student progress. Self-instructional materials and senior projects were used by about two-thirds of the respondents, and the importance of each was judged as moderate. Slightly over 80 percent of the schools used the NLN Achievement Tests, but they were considered only somewhat important in the evaluation of student progress.

Ratings of six areas of clinical skills proved to be in very widespread use among the respondents. Over 90 percent reported using ratings of technical skills, teaching skills, interpersonal skills, assessment skills, problem-solving skills, and leadership skills. Among these ratings, teaching skills and leadership skills were considered moderately important; all others were considered very important. Self-instructional materials were reported in use by two-thirds of the respondents who considered them to be of moderate importance in evaluating the clinical performance of nursing students.

Respondents were also asked to provide examples of any clinical performance instruments in use in their schools which they felt were particularly innovative or promising; 31 respondents included such material with their completed questionnaires. Several of these sets of materials have been selected as examples and summaries are included in appendix II.–C.

Student performance in nursing skills laboratories was most often evaluated with performance ratings instruments; almost 90 percent of the respondents reported using such measures, and they were considered moderately to very important. Slightly more than two-thirds of the respondents reported using teacher-made examinations and self-instructional materials in the skills lab, and they judged these measures to be of moderate importance.

Since our list of progression measures was, of necessity, rather brief and general, we also asked respondents to describe measures of student progress that they used but which had not been included in the questionnaire. These alternative progression measures are listed in table II.–20 with the number of schools where each is used. Most of the alternative measures were mentioned by only one school. Case studies were used as measures of progress in theory by four schools and guided independent study was used in three schools. Alternative clinical performance measures used by several schools included student self-evaluations (N=8), health team membership skills (N=5), nursing care plans (N=5), and pharmacology cards (N=4). Self-evaluation by students was also reported by four schools as a measure of progress in the nursing skills laboratory.

The data in tables II.–21, II.–22, and II.–23 show the comparisons among A.D., diploma, and baccalaureate nursing schools in their reported use and perceived importance of the measures of student progress that were listed in the questionnaire. Table II.–21 shows that respondents from baccalaureate schools placed more importance on term papers as an evaluation tool for theory knowledge than A.D. or diploma schools. The A.D. school respondents placed less emphasis on the importance of senior projects and reported that self-instructional materials were important in their evaluation strategies. Of the three types of schools, the diploma schools use self-instructional materials least—both in areas of theory and clinical practice.

Data in table II.–22 show that, in evaluating nursing students' clinical practice performance, respondents from baccalaureate schools reported *using* technical skills ratings as often as A.D. and diploma schools, but they put less emphasis on their importance. The baccalaureate schools placed more emphasis than the others on the importance of interpersonal relations skills, problem-solving skills, and leadership skills in the evaluation of clinical performance. Diploma and baccalaureate school respondents considered the ratings of teaching skills more important than respondents from A.D. schools of nursing. The data in table II.–23 show no notable differences among types of nursing schools in skills lab evaluation procedures.

The reported use and importance of progress measures were also compared by geographic region. These data appear in tables II.–24, II.–25, and II.–26.

## Summary

1. The most widely used measures of nursing student progress in theory were teacher-made examinations, term papers, and oral presentations and examinations. Of these, teacher-made examinations were considered the most important measures of student progress.
2. When evaluating students' progress in clinical performance, almost all respondents reported using ratings of technical skills, interpersonal relations skills, problem-solving skills, and assessment skills. The highest ratings of importance were given to evaluating problem-solving skills, assessment skills, and interpersonal relations skills.
3. Performance ratings were used most often to evaluate student progress in skills laboratory and were judged as the most important measure.
4. A wide variety of alternative measures were used by respondents, but only a small number of schools reported using each alternative.
5. A comparison of the responses from the three different types of programs showed: (1) that baccalaureate school respondents placed more importance on term papers as measures of student progress in theory than respondents from A.D. and diploma schools and less importance on NLN test scores; (2) that, while baccalaureate schools used ratings of technical skills as often as A.D. and diploma schools, they considered them less important in evaluating clinical performance; (3) that respondents from baccalaureate schools placed more emphasis than the others on the importance of skills of interpersonal relations, problem-solving, and leadership; and (4) that diploma school respondents reported using self-instructional materials least in evaluating progress in both theory and clinical practice.
6. The use and perceived importance of nursing student progress measures varied little among the four geographic regions.

# VI. PERFORMANCE ON STATE BOARD TEST POOL EXAMINATIONS BY THE 1974 GRADUATES OF RESPONDING SCHOOLS OF NURSING

One important step in becoming a successful nurse is the successful completion of the State Board Test Pool Examinations and the subsequent registration by the appropriate State agency. Opinions vary widely regarding the actual value and relevance to practice of the examinations; nonetheless, they are a standard requirement, and the achievement patterns of graduates are, in fact, part of a nursing school's "profile." Performance on State Board examinations has been shown in several studies to be related positively to academic achievement in nursing school; the relationship to practice is considerably less clearcut and will be one of the subjects of interest in the analysis of the performance data from the graduates and supervisors who participated in phase three of the data collection.

The purpose of this section is to describe the patterns of State Board examination scores obtained by the 1974 graduates of the 150 schools of nursing who participated in the study. The major reason for asking respondents about the State Board performance of their 1974 graduates (when we were actually studying nursing performance of the 1975 graduates) was that data collection from nursing schools began in the summer of 1975 when few or none of the schools would have received the examination results from their 1975 graduates. Therefore, the 1974 graduates' scores were the most current State Board exam score data available when these data were collected.

Respondents were asked to indicate how many of their 1974 graduates had obtained scores in each of six score categories—700 and above, 600–699, 500–599, 400–499, 350–399, and below 350—for purposes of differentiating high achievers and low achievers on the examinations. Graduates in the top two categories, i.e., those who obtained scores of 600 and above, were classified as "high achievers"; and those who obtained scores in the bottom two categories, i.e., below 400, were designated as "low achievers."

The data in table II.–27 show that 61–64 percent of the schools' 1974 graduates obtained, on each of the State Board tests, scores between 400 and 600; roughly 10 percent more scored in the 500's than in the 400's. Generally, 2 percent or fewer achieved scores of 700 and above, and fewer than 5 percent obtained scores below 350 on the tests. The distribution of graduates in each score category is very similar across all five tests.

Standardized summary indicators of the State Board performance of the 1974 graduates were generated on the basis of the percent of graduates who obtained scores of 600 and above and the percent of graduates who obtained scores below 400. These provide the data base for figures 1 through 20 and for tables II.–28 and II.–29.

The data displayed in figures 1–5 (see appendix II.–A) show that significantly higher percentages of the graduates of participating diploma schools were in the high achiever category on four of the five tests: Medical, Surgical, Obstetrical, and Pediatric. Figure 5 shows a significantly higher proportion of baccalaureate graduates among the high achievers on the Psychiatric test than graduates from A.D. and diploma programs. Baccalaureate schools reported the lowest percentage of graduates in the over-600 category for the Surgical and Obstetrical tests; A.D. graduates had the lowest percentage on the Psychiatric test, and both were the same on Medical and Pediatric tests.

Figures 6–10 show the comparison of the distribution of graduates of the three types of schools in the score categories below 400. As one would expect, given the data in figures 1–5, the diploma schools had the lowest percentage of their graduates in the low achiever category. Associate degree schools had the highest percentage of graduates in the same category on each of the five tests. The F values show that all differences were statistically significant.

Responding schools from the four geographic regions were also compared in terms of the percentages of their 1974 graduates who obtained State Board scores of 600 and above and the percentages who obtained scores below 400. The data displayed in figures 11–15 show a consistent pattern of the highest percentage of high achievers in the graduates of the West region schools, followed closely by the graduates of Midwest region schools. Graduates of nursing schools in the South region had the lowest percentage in the high achiever category on the Medical, Pediatric, and Psychiatric tests; North Atlantic region schools had the lowest percentage of graduates obtaining scores above 600 on the Surgical test; and North Atlantic region graduates and South region graduates were tied on the Obstetrical examination. All differences were statistically significant.

Figures 16–20 show that the highest percentages of 1974 graduates who obtained scores of less than 400 were reported by North Atlantic region schools on the Surgical test. Responding schools in the South region reported the highest percentage in this category on the Medical, Pediatric, and Psychiatric examinations. All F values in figures 16–20 show that the differences were statistically significant.

In order to further specify the sources of the variance in the percentages of high achievers and low achievers on State Board examinations, a two-way analysis of variance was computed for each distribution (tables II.–28 and II.–29). The data show that when region and school type are controlled, the main effects persist and there are no interactions.

## Summary

1. Respondents were asked to report the number of graduates from their 1974 graduating classes who had obtained State Board Test Pool Examination scores in each of six score ranges on each of the five tests. Almost two-thirds of the graduates had obtained scores between 400 and 600; approximately 20 percent obtained scores of 600 and above; and about 10 percent obtained scores below 400.
2. The percent of 1974 graduates who obtained scores of 600 and above and the percent who had obtained scores below 400 on each test were computed for each school. Respondents from diploma schools reported the highest percentage of graduates in the 600 and above category in the Medical, Surgical, Obstetrical, and Pediatric examinations. Respondents from baccalaureate schools reported the highest percentage of graduates in the 600 and above category for the Psychiatric test. When geographic region was controlled, the between-school differences persisted.
3. The highest percentage of graduates who obtained scores of 600 and above were reported by respondents from nursing schools in the West region, followed closely by schools in the Midwest region. This was true for all five tests and persisted when school type was controlled.

# VII. THE GRADUATE SAMPLE, CRITERIA FOR NOMINATION OF PROMISING GRADUATES AND OPERATIONAL DEFINITIONS

*SELECTION OF GRADUATE SAMPLE:* In order to determine the effectiveness of predictors of successful nursing performance in use by schools of nursing, it was necessary to identify and contact the graduates of the schools. To obtain the necessary sample of graduates, the responding schools were asked:

(1) To provide a list of the names and permanent addresses of their entire spring 1975 graduating class.

(2) To identify, from this cohort of graduates, those considered as having the greater potential for being successful in nursing practice (equal to 25 percent of the total number graduating).

(3) To identify, from the selected 25 percent, those graduates considered as having the *greatest* potential for being successful in nursing practice. No number or percentage was specified for this "most promising" group.

In tables II.–30 and II.–31, it may be seen that the graduate sample consisted of a total of 2,941 members of the 1975 graduating classes from the participating nursing schools. Of these graduates, 1,885 (64 percent) were identified by their schools as having the greater potential for being successful in nursing practice; from among that group, 902 were identified as having the *greatest* potential for being successful in nursing practice. The remaining 1,056 graduates in the sample included those selected by the project staff in a random sample of each school cohort. These graduates were to serve as a group of "control" respondents to whom the performance and characteristics of the school-selected graduates could be compared.

*NOMINATION CRITERIA USED BY SCHOOLS OF NURSING TO SELECT MORE PROMISING GRADUATES:* The responding schools were asked to delineate the criteria they had used in identifying those graduates having the greater and greatest potential for being successful in nursing practice. The question was intentionally open ended in order not to structure or limit the respondents' thinking. The responses were then coded into categories. Tables II.–32 and II.–33 contain the categories of responses and the frequency with which they were cited. Academic achievement in nursing school was cited most often as a selection criterion—by over 80 percent of all the schools. Clinical performance and instructor evaluations were cited by approximately one-half of the schools—53 percent and 49 percent, respectively. Various personal attributes and characteristics were listed by a third of the respondents. Responses coded into this category included such things as self-confidence, creativity, integrity, self-responsibility, motivation, appearance, adaptability, and enthusiasm.

Criteria coded as personal growth and development and professional development were mentioned by approximately one-fourth of the responding schools. The personal growth and development category included such responses as community service and involvement, participation in extracurricular activities, commitment to learning, and interest in self-growth. Professional development included potential for continuing education, future intent in the nursing field, professional attitude, and commitment to nursing. Interpersonal relations skills were cited as a selection criterion by 22 percent of the respondents; skills in leadership were cited by nearly 15 percent; and the application of scientific principles, teaching skills, and the achievement of school objectives were cited by fewer than 6 percent of the respondents.

*OPERATIONAL DEFINITIONS OF "EFFECTIVE NURSING PERFORMANCE" AND "A SUCCESSFUL NURSE":* Since the focus of this study was the successful nursing performance of recent graduates, it was necessary to obtain the operational definitions of "effective nursing performance" and "a successful nurse." This was done for two primary reasons: (1) we wished to know how consistent these definitions would be among the various nursing school respondents; and (2) we wished to incorporate [illegible] elements of these definitions into the behaviorally anchored performance rating instrument to be used in collecting data from the graduates and their employers. Some school respondents seemed to assume the terms—effective nursing performance and a successful nurse—to be synonymous; in fact, several respondents simply wrote, "See above," as their response to the second definition. It was, nonetheless, judged to be appropriate to provide an opportunity to describe *role* (a successful nurse) as well as *function* (effective nursing performance) in order to assure the breadth of definitional elements we sought.

## "Effective Nursing Performance"

Many respondents were quite articulate in their definitions of effective nursing performance. For example:

> "The unique function of the nurse is to assist the individual, sick or well, in the performance of those activities contributing to health or its recovery (or to peaceful death) that he would perform unaided if he had the necessary strength, will, or knowledge."—A diploma school in the North Atlantic region.
>
> "Effective nursing performance requires . . . demonstrating a system of values which reflects appreciation of the rights, dignity, and worth of the individual and recognizing community health problems and changes in the health care system which affect the delivery of health care."—A diploma school in the North Atlantic region.
>
> "Effective nursing performance is manifested by the following behaviors: the nurse acts as the patient's advocate, is skillful in performing procedures, makes decisions and plans actions on a rational basis, demonstrates compassion in human relationships, maintains ethical and responsible behavior in all areas of performance."—A diploma school in the South region.
>
> ". . . using a basic conceptual knowledge of people's adaptive behavior derived from biophysical and psychosocial sciences . . . working collaboratively with clients, other health professionals, nursing colleagues, and nursing assistants in the various phases of supplying needed health services . . . maintaining sensitivity toward new developments in health and nursing, as well as awareness of health and nursing issues in the community and larger world."—A baccalaureate school in the North Atlantic region.
>
> ". . . exercises leadership in and outside of the profession and becomes self-directed practitioner."—A baccalaureate school in the Midwest region.
>
> "In the nursing process, the nurse is a facilitator in the problem-solving activities of a system. To be a successful facilitator, the nurse must have skills in the communication process."—A baccalaureate school in the West region.

The preceding examples of definitions of effective nursing performance, along with those provided by the other respondents, were content analyzed in terms of the definitional elements that appeared in each answer. These elements, and the frequency with which they were cited, appear in tables II.–34 and II.–35. Behaviors that were classified as implementing nursing care were cited by the greatest number of respondents (83 percent). Planning nursing care appeared in the definitions of two-thirds of the respondents; about half of the group mentioned interpersonal relations skills, evaluating nursing care, and the application of scientific principles in nursing practice. Elements of professional development and teaching skills appeared in about one-third and one-fourth of the definitions, respectively. Personal attributes and characteristics and leadership skills were each cited by almost 15 percent of the respondents; personal growth appeared in 12 percent of the definitions; and accomplishment of school objectives and academic achievement were given by fewer than 5 percent of the respondents.

In order to determine whether the frequency of definitional elements of effective nursing performance differed either by type of school or the region in which the school was located, chi-squares were computed and only one was found to indicate a statistically significant difference. Respondents from the baccalaureate schools included implementing nursing care in their definitions less often than either associate degree or diploma program respondents. The high values of Kendall's W in both tables also indicate a high degree of agreement in the relative ranking of the frequency of citation both by school type and by geographic region.

## "A Successful Nurse"

One can see in tables II.–36 and II.–37 that, with the exception of one element, the respondents included the same definitional elements in the descriptions of a successful nurse as they had included in effective nursing performance. The following are a few of the definitions that were provided:

> "A successful nurse is one who is able to administer safe, direct nursing care, assume responsibility for her own actions, and be guided by a code of moral and professional values."—An A.D. school in the Midwest region,
>
> "A successful nurse is one who meets the goals established by herself and her employer for the delivery of health care to a given segment of the population."—A diploma school in the North Atlantic region.
>
> "The successful nurse is one who has met all of the school objectives."—A diploma school in the North Atlantic region.
>
> "A successful nurse is one who demonstrates leadership skills, clinical expertise, is influential in effecting change and capable of career advancement."—A diploma school in the South region.
>
> ". . . one who makes the patient/client feel he has warm human contact that provides technically skillful, physical and mental nursing care."—A baccalaureate school in the Midwest region.
>
> "A successful nurse . . . questions!!"—A baccalaureate school in the Midwest region.
>
> "One who can make transition from school to work situation with minimal reality shock . . . can learn to modify without compromising principles. One who has a fairly strong self-ego: is comfortable with self, shortcomings as well as strengths."—A baccalaureate school in the Midwest region.
>
> "Uses authority, responsibility, judgment, and accountability based on a specified body of knowledge acquired through the process of formal and informal education."—A baccalaureate school in the Midwest region.

Definitions of a successful nurse, like those of effective nursing performance, contained most often the element of implementing nursing care—over two-thirds did so. Sixty percent of the respondents cited professional development in their definitions. The next most commonly included elements were: interpersonal relations skills (39 percent), personal growth (37 percent), planning nursing care (35 percent), evaluating nursing care (34 percent), application of scientific principles (33 percent), and personal attributes and characteristics (31 percent). Fewer than 20 percent of the respondents mentioned leadership skills or teaching skills, and only a few cited bureaucratic loyalty, accomplishment of school objectives, or academic achievement as a part of their operational definition of a successful nurse.

A significant difference in the frequency of citation by school type was found in only one element and no differences were found by region. Respondents from diploma schools of nursing included personal growth in their definitions more often than either associate or baccalaureate program respondents. The order of relative frequency with which the definitional elements were cited was also very consistent both by school type and region—as indicated by the high values of Kendall's coefficient of concordance for each table.

*COMPARISON OF DEFINITIONS OF "EFFECTIVE NURSING PERFORMANCE" AND "A SUCCESSFUL NURSE," AND CRITERIA USED FOR SELECTING MOST PROMISING NURSING GRADUATES:* Since almost all of the same elements appeared in the two definitions it was of interest to determine whether there was consistency or inconsistency in the relative order of the frequency of citation of each of the two definitions as provided by the respondents as a group. Accordingly, a Kendall's W was computed using the data in the "Total" columns from tables II.–34 and II.–

36. The results: $W = .88$; $X^2 = 21.23$ with 12 degrees of freedom; $p < .05$. This indicates a substantial degree of consistency in the order of the definitional elements of both effective nursing performance and a successful nurse.

Some interesting differences in emphasis appeared between the respondents' definitional elements of a successful nurse and the criteria they used to select their graduates who had the greater potential for success in nursing. In comparing the frequencies of overall citation shown in tables II.–32 and II.–36, one sees, for example, that while academic achievement was by far the most frequently listed selection criterion, it was mentioned as a definitional element for a successful nurse by only 4 of the 150 respondents. Interpersonal relations skills were cited among the definition of a successful nurse by 39 percent of the respondents, but only about half that many reported using it as a selection criterion. The frequency of inclusion of clinical performance as a selection criterion and the inclusion of the more specific aspects of clinical performance in the definitions of a successful nurse (i.e., planning, implementing, and evaluating nursing care) could be considered roughly equivalent. However, the application of scientific principles in nursing care appeared as an element in almost a third of the definitions, but in fewer than 6 percent of the selection criteria.

## Summary

1. Respondents from the participating schools of nursing were asked to specify the criteria they used in identifying the *more* promising and the *most* promising individuals from their 1975 graduating classes. Academic achievement while in nursing school was the criterion most often cited—over 80 percent of the respondents listed it. Clinical performance and instructors' evaluations were each cited by about half the respondents.
2. There was a high degree of consistency—both by school type and by region—in the criteria used to identify the 1975 graduates who were considered to have the most promise for becoming successful nurses.
3. When respondents were asked to provide operational definitions of effective nursing performance the two elements most often included in the definitions were behaviors related to implementing nursing care (83 percent) and planning nursing care (67 percent). About one-half of the definitions included elements of interpersonal relations skills, evaluating nursing care, and application of scientific principles. The definitions provided by respondents were very consistent both by school type and geographic region.
4. When respondents were asked to provide operational definitions of a successful nurse, the two elements cited most often were implementing nursing care (67 percent) and professional development (60 percent). Definition elements cited by over a third of the respondents included interpersonal relations skills, personal growth, planning nursing care, and evaluating nursing care. Responses were consistent by school type and by region.
5. The elements that the respondents included in their definitions of effective nursing performance were consistent with those they cited in their definitions of a successful nurse. The content of the practice definitions, however, differed considerably from the criteria they used in selecting the graduates from their schools who had the greater likelihood of becoming successful nurses.

# VIII. SUMMARY

The purpose of this report was to provide a description of the background, conduct, and findings of the second major phase of the research project, "Prediction of Successful Nursing Performance." The goal of this second phase was to obtain from a 10 percent sample of State-accredited U.S. nursing schools information regarding: (1) the adequacy and use of known criteria for predicting successful nursing performance; (2) alternative criteria that they considered to be promising for such prediction; (3) operational definitions of "a successful nurse" and "effective nursing performance"; and (4) selection of a cohort of the schools' spring 1975 graduates considered to have the most potential for success in nursing practice.

Data were obtained from a stratified random sample of 150 schools of nursing by means of a mailed questionnaire developed by the project staff.

*NURSING SCHOOL CHARACTERISTICS:* All schools of nursing were stratified according to program type (A.D., diploma, and baccalaureate), geographic region (North Atlantic, Midwest, South, and West), and type of financing (public and private), producing a 24-cell matrix. Each cell in the matrix was sampled randomly, producing a 10 percent stratified random sample. Of those asked to participate, 30 percent did not do so; these were replaced by repeating the random selection procedure in each cell. The final number of participating schools was 150: 66 A.D. schools, 50 diploma schools, and 34 baccalaureate schools. The diploma schools had been in operation for the longest period of time: almost all had been operating for over 10 years. By contrast, almost one-third of the A.D. schools had been in operation for fewer than 5 years. Baccalaureate schools of nursing reported the highest average total enrollment—about twice that of either A.D. or diploma programs. Diploma schools had the smallest average class size—approximately 50 students per class. Almost all the students enrolled in nursing schools were women; fewer than 7 percent were men. The participating baccalaureate schools reported that most students were admitted to the baccalaureate nursing program during their sophomore years in college; most baccalaureate programs admitted students at only one point in time.

*NURSING SCHOOL ADMISSION CRITERIA:* The most commonly used criteria for admission to schools of nursing were, in decreasing order: health data, high school rank, high school grade point average, interviews with applicants, and prior college grade point average. Each criterion was used by at least two-thirds of the responding schools. Diploma schools reported using more criteria more often than either A.D. or baccalaureate schools. When the schools were compared by geographic region, it was observed that nursing schools in the North Atlantic region had a significantly higher use rate for high school rank, SAT scores, and NLN test scores. Admission criteria for all three types of schools in the West region differed little, but the differences in the criteria used by diploma, A.D., and baccalaureate schools were marked in the North Atlantic and South regions.

*PREDICTION OF NURSING STUDENT PERFORMANCE:* The only predictive measures in use by any substantial number of nursing schools were measures of cognitive attributes and achievement. About half of the respondents reported using the ACT, the NLN prenursing examinations, or the SAT. The ACT, NLN, and SAT scores were judged by those who used them to be of moderate value in predicting academic achievement and State Board Examination performance, but of little value in predicting either clinical performance in nursing or persistence in the nursing program. The predictive capabilities of these three cognitive measures were judged similarly by respondents from all three types of schools and in all four geographic regions.

*EVALUATION OF STUDENT PROGRESS:* The measure of nursing student progress in theory that was most widely used and considered most important in the schools' evaluation strategies was the teacher-made examination. Other widely used measures were term papers and oral presentations and examinations. Respondents from baccalaureate schools placed more emphasis on term papers and less emphasis on NLN test score than respondents from A.D. and diploma programs.

When evaluating students' clinical performance, almost all respondents reported using ratings of technical skills, interpersonal relations skills, problem-solving skills, and assessment skills. While the group as a whole gave the highest ratings of importance to evaluation of problem-solving, assessment, and interpersonal relations skills, significant differences in some value judgments were found among the types of schools. Respondents from baccalaureate schools placed more emphasis than the others on evaluating interpersonal relations skills, problem-solving skills, and leadership skills and less emphasis on technical skills.

Student progress in skills laboratories was most often evaluated using performance ratings, and respondents generally agreed that this was the most important type of measure in that instructional setting.

A wide variety of alternative measures was used by respondents, but only a few schools reported using each alternative. Respondents were asked to provide samples of any student progress measures that they considered to be valuable or innovative. Samples of selected materials are included in appendix II.–C.

*STATE BOARD EXAMINATION PERFORMANCE OF GRADUATES:* State Board performance was categorized using six score ranges (i.e., 700 and above, 600–699, 500–599, 400–499, 350–399, and below 350) for each of the five tests. Respondents were asked to supply the number of graduates from their 1974 graduating classes who had obtained State Board scores in each of these categories. Almost two-thirds of all the graduates had obtained scores between 400 and 600; about 20 percent had scores of 600 and above, and 10 percent scored below 400. The highest percentages of graduates in the 600-and-above category in the Medical, Surgical, Obstetrical, and Pediatric areas were reported by respondents from diploma schools of nursing. The highest percentages of graduates obtaining scores of 600 and above in Psychiatric nursing were reported by baccalaureate respondents. These differences between types of schools were observed in all geographic regions. When the distribution of examination scores was compared by region, it was found that the highest percentage of 1974 graduates obtaining scores of 600 and above were reported by respondents from nursing schools in the West, followed closely by schools in the Midwest region.

*CRITERIA FOR IDENTIFYING PROMISING STUDENTS:* Respondents were asked to identify from their spring 1975 graduating classes the 25 percent whom they considered to have the greater potential for being successful in nursing practice. Then they were asked to identify, from this 25 percent, graduates with the *greatest* potential for success. Finally, they were asked to list the criteria which had been applied in the selection of these students. The criterion most often cited (over 80 percent of the respondents listed it) was academic achievement while in nursing school. The next most often cited criteria were clinical performance and instructors' evaluations; these were listed by half the respondents. The respondents' listed criteria were quite consistent both by program type and geographic region.

*OPERATIONAL DEFINITIONS OF "EFFECTIVE NURSING PERFORMANCE" AND "A SUCCESSFUL NURSE":* The respondents were also quite consistent in their use of elements to operationally define these two terms. The two elements most often included in definitions of effective nursing performance were behaviors related to implementing nursing care (83 percent listed these) and planning nursing care (67 percent included these). About one-half of the definitions of effective nursing performance included elements of interpersonal relations skills, evaluating nursing care, and application of scientific principles. The two elements that were cited most often in the respondents' definitions of a successful nurse were those related to implementing nursing care (67 percent) and professional development (60 percent). Over a third of the respondents included interpersonal relations skills, evaluating nursing care, and application of scientific principles. The two elements that were cited most often in the respondents' definitions of a successful nurse were those related to implementing nursing care (67 percent) and professional development (60 percent). Over a third of the respondents included interpersonal relations skills, personal growth, planning nursing care, and evaluating nursing care.

The elements that the respondents included in their definitions of effective nursing performance were consistent with those which they cited in their definitions of a successful nurse. The content of these practice definitions, however, differed considerably from the criteria which the schools used to select their more potentially successful graduates.

# Appendix II.–A

# TABLES AND FIGURES

**Table II-1.—Distribution of responding schools and desired sample size, by region, school type, and type of financing**

| Program | Type of financing by region | | | | | | | | | | | | | | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | I: No. Atlantic | | | | II: Midwest | | | | III: South | | | | IV: West | | | | | |
| | Public | | Private | | Public | | Private | | Public | | Private | | Public | | Private | | | |
| | A[1] | D[2] | A | D | A | D | A | D | A | D | A | D | A | D | A | D | A | D |
| Associate degree | 9 | 9 | 1 | 2 | 16 | 14 | 2 | 2 | 23 | 21 | 3 | 3 | 11 | 12 | 1 | 1 | 66 | 64 |
| Diploma | 5 | 5 | 15 | 17 | 2 | 2 | 15 | 16 | 3 | 3 | 7 | 7 | 1 | 1 | 2 | 2 | 50 | 53 |
| Baccalaureate | 4 | 4 | 7 | 6 | 4 | 4 | 6 | 5 | 5 | 7 | 4 | 3 | 2 | 3 | 2 | 2 | 34 | 34 |
| Sub total | 18 | 18 | 23 | 25 | 22 | 24 | 23 | 23 | 31 | 31 | 14 | 13 | 14 | 16 | 5 | 5 | | |
| Total in region | | 41 | 43 | | | 45 | 43 | | | 45 | 44 | | | 19 | 21 | | 150 | 151 |

[1] Actual number of respondents.
[2] Desired number of respondents according to sampling strategy.

**Table II-2.—Distribution of nonresponding schools, by region, school type, and type of financing**

| Program | Type of financing by region | | | | | | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | I: No. Atlantic | | II: Midwest | | III: South | | IV: West | | | |
| | Public | Private | Public | Private | Public | Private | Public | Private | No. | Pct.[1] |
| Associate degree | 6 | 3 | 9 | 0 | 9 | 1 | 6 | 0 | 34 | 34 |
| Diploma | 6 | 8 | 0 | 4 | 0 | 0 | 0 | 0 | 18 | 26 |
| Baccalaureate | 3 | 4 | 0 | 0 | 3 | 2 | 2 | 0 | 14 | 30 |
| Total percent | 30 | | 13 | | 15 | | 8 | | 67 | |
| | 42 | | 22 | | 25 | | 30 | | 30 | |

[1] Percent of total schools contacted.

**Table II-3.—Distribution of responding schools, by region, school type, and length of time in operation**

| Years in operation | Type of school by region | | | | | | | | | | | | | | | | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Associate Degree | | | | A.D. Total | | Diploma | | | | Diploma Total | | Baccalaureate | | | | Bacc. Total | | | |
| | I | II | III | IV | No. | Pct. | I | II | III | IV | No. | Pct. | I | II | III | IV | No. | Pct. | No. | Pct. |
| <1 | – | 1 | – | – | 1 | 2 | – | – | – | – | 0 | 0 | – | 1 | – | – | 1 | 3 | 2 | 1 |
| 1–5 | 4 | 5 | 12 | – | 21 | 32 | 1 | – | – | – | 1 | 2 | – | 1 | – | 1 | 2 | 6 | 24 | 16 |
| 6–10 | 4 | 8 | 5 | 5 | 22 | 34 | – | – | – | – | 0 | 0 | 6 | 3 | 2 | – | 11 | 32 | 33 | 23 |
| >10 | 2 | 4 | 9 | 6 | 21 | 32 | 17 | 16 | 10 | 3 | 46 | 98 | 5 | 5 | 7 | 3 | 20 | 59 | 87 | 60 |
| Total | 10 | 18 | 26 | 11 | 65 | 100 | 18 | 16 | 10 | 3 | 47 | 100 | 11 | 10 | 9 | 4 | 34 | 100 | [1]146 | 100 |

[1] Four schools did not provide these data.

Table II-4.—Mean total enrollment of responding schools, by region, school type, and type of financing

| Program | Type of financing by region | | | | | | | | Total $\overline{X}$ |
|---|---|---|---|---|---|---|---|---|---|
| | I: No. Atlantic | | II: Midwest | | III: South | | IV: West | | |
| | Public | Private | Public | Private | Public | Private | Public | Private | |
| Associate degree | 135<br>(N=9) | 253<br>(N=1) | 139<br>(N=16) | 153<br>(N=2) | 126<br>(N=21) | 118<br>(N=3) | 132<br>(N=11) | 180<br>(N=1) | 135<br>(N=64) |
| Diploma | 109<br>(N=5) | 154<br>(N=15) | 137<br>(N=2) | 170<br>(N=15) | 157<br>(N=3) | 100<br>(N=7) | 365<br>(N=1) | 260<br>(N=2) | 155<br>(N=50) |
| Baccalaureate | 361<br>(N=3) | 479<br>(N=6) | 285<br>(N=4) | 234<br>(N=5) | 166<br>(N=4) | 338<br>(N=4) | 594<br>(N=2) | 183<br>(N=2) | 328<br>(N=30) |
| Mean total | 212<br>(N=39) | | 174<br>(N=44) | | 156<br>(N=42) | | 234<br>(N=19) | | [1](N=144) |

[1] Six schools did not provide these data.

Table II-5.—Mean percent enrollment of men in responding schools of nursing, by region, school type, and type of financing (N=number of schools providing necessary data)

| Program | Type of financing by region | | | | | | | | Total mean percent men |
|---|---|---|---|---|---|---|---|---|---|
| | I: No. Atlantic | | II: Midwest | | III: South | | IV: West | | |
| | Public | Private | Public | Private | Public | Private | Public | Private | |
| Associate degree | 7.7<br>(N=9) | 5.1<br>(N=1) | 6.2<br>(N=16) | 5.2<br>(N= 2) | 6.7<br>(N=21) | .9<br>(N=3) | 8.6<br>(N=11) | 14.4<br>(N=1) | 7.2<br>(N=64) |
| Diploma | 8.3<br>(N=5) | 3.7<br>(N=15) | 9.6<br>(N= 2) | 4.3<br>(N=15) | 4.1<br>(N= 3) | 7.8<br>(N=7) | 5.5<br>(N= 1) | 5.0<br>(N=2) | 5.3<br>(N=50) |
| Baccalaureate | 5.9<br>(N=3) | 2.3<br>(N=6) | 7.0<br>(N= 4) | 4.2<br>(N= 5) | 31.2<br>(N= 4) | 4.6<br>(N=4) | 8.1<br>(N= 2) | 2.9<br>(N=2) | 8.2<br>(N=30) |
| Mean total | 4.6<br>(N=39) | | 5.5<br>(N=42) | | 12.3<br>(N=40) | | 6.0<br>(N=19) | | [1](N=144) |

[1] Six schools did not provide the data necessary to compute these figures.

Table II-6.—Point of entry into nursing programs in baccalaureate schools

| Entry | N | Percent of schools |
|---|---|---|
| Autumn freshman | 8 | 24.2 |
| Mid-year freshman | 3 | 9.1 |
| Autumn sophomore | 11 | 33.3 |
| Mid-year sophomore | 11 | 33.3 |
| Autumn junior | 4 | 12.1 |
| Mid-year junior | 0 | 0 |
| Total N of schools | [1] 37 | |

[1] While this figure is the total number of schools that responded to the question (Section I, Item 3), the total number of responses in all categories exceeds the school total by four, because three baccalaureate schools reported multiple enrollment points: one as autumn freshmen and mid-year freshmen; one as autumn freshmen, autumn sophomores, and autumn juniors; and another as autumn and mid-year sophomores.

**Table II-7.—Frequency of use of nursing school admission criteria, by school type**

| Admission criteria | School type | | | Total | | p |
|---|---|---|---|---|---|---|
| | Percent A.D. | Percent Diploma | Percent Baccalaureate | N | Percent | |
| Health data | 81.8 | 98.0 | 67.6 | 126 | 84.0 | .001 |
| High school rank | 63.6 | 86.0 | 67.6 | 108 | 72.0 | .05 |
| High school GPA | 69.7 | 86.0 | 58.8 | 109 | 72.6 | .05 |
| Interview | 63.6 | 92.0 | 35.3 | 100 | 66.6 | .001 |
| College GPA | 73.8 | 50.0 | 76.5 | 99 | 66.0 | .05 |
| Biographical data | 53.0 | 82.0 | 38.2 | 89 | 59.3 | .001 |
| Personal references | 33.3 | 92.0 | 38.2 | 81 | 54.0 | .001 |
| ACT scores | 54.5 | 52.0 | 41.2 | 76 | 50.6 | – |
| SAT scores | 34.8 | 68.0 | 47.1 | 73 | 48.6 | .01 |
| Autobiographical essay | 24.2 | 58.0 | 14.7 | 50 | 33.3 | .001 |
| NLN test scores | 4.5 | 42.0 | 5.9 | 26 | 17.3 | .001 |
| Ethnic and racial background | 15.2 | 6.0 | 8.8 | 16 | 10.6 | – |
| MMPI | 1.5 | 8.0 | 0.0 | 5 | 3.3 | – |
| Parents' educational level | 0.0 | 10.0 | 0.0 | 5 | 3.3 | – |
| Religious affiliation | 1.5 | 4.0 | 5.9 | 5 | 3.3 | – |

**Table II-8.—Frequency of use of nursing school admission criteria, by region**

| Admission criteria | Percent by region | | | | Total | | p |
|---|---|---|---|---|---|---|---|
| | North Atlantic | Midwest | South | West | No. | Percent | |
| Health data | 80.5 | 82.2 | 91.1 | 78.9 | 126 | 84.0 | – |
| High school rank | 92.7 | 77.8 | 66.7 | 26.3 | 108 | 72.0 | .001 |
| High school GPA | 73.2 | 73.3 | 73.3 | 68.4 | 109 | 72.6 | – |
| Interview | 70.7 | 64.4 | 68.9 | 57.9 | 100 | 66.6 | – |
| College GPA | 52.5 | 68.9 | 64.4 | 94.7 | 99 | 66.0 | .05 |
| Biographical data | 61.0 | 64.4 | 55.6 | 52.6 | 89 | 59.3 | – |
| Personal references | 65.9 | 55.6 | 40.0 | 57.9 | 81 | 54.0 | – |
| ACT scores | 22.0 | 77.8 | 57.8 | 31.6 | 76 | 50.6 | .01 |
| SAT scores | 82.9 | 33.3 | 46.7 | 15.8 | 73 | 48.6 | .001 |
| Autobiographical essay | 41.5 | 33.3 | 26.7 | 31.6 | 50 | 33.3 | – |
| NLN test scores | 36.6 | 15.6 | 8.9 | 0.0 | 26 | 17.3 | .01 |
| Ethnic and racial background | 4.9 | 13.3 | 4.4 | 31.6 | 16 | 10.6 | .01 |
| MMPI | 4.9 | 0.0 | 4.4 | 5.3 | 5 | 3.3 | – |
| Parents' educational level | 2.4 | 4.4 | 4.4 | 0.0 | 5 | 3.3 | – |
| Religious affiliation | 0.0 | 6.7 | 4.4 | 0.0 | 5 | 3.3 | – |

Table II-9.—Frequency of use of alternative admission criteria used by schools

| Alternative admission criteria | Times used |
|---|---|
| Psychological Corporation (PNE) | 5 |
| School and College Ability Test (SCAT) | 8 |
| California Achievement Tests (CAT) | 2 |
| College Entrance Exam Board (CEEB) | 2 |
| College Qualification Test | 3 |
| Comparative Guidance and Placement Test | 4 |
| Dent Psychometric Exam | 4 |
| Entrance Exam for Schools of Nursing | 2 |
| Essay questions | 2 |
| High school graduation or passed (GED) | 2 |
| Open door admission policy | 2 |
| Otis Mental Ability Test | 2 |
| Overall high school record | 2 |
| Previous work experience | 4 |
| Psychological Corporation Test (PCT) | 2 |
| Smeltzer Pre-nursing Aptitude Test | 3 |
| Test of English as a Foreign Language (if foreign language-speaking) | 2 |
| AACH | 1 |
| Any standardized achievement test | 1 |
| Bobbs-Merrill Test (Part II) | 1 |
| California Standard Form Y | 1 |
| Cooperative Reading Test | 1 |
| CPP | 1 |
| DAT | 1 |
| Evaluative Test Results (ODWIN) | 1 |
| Fisher Psychometric Test | 1 |
| General Aptitude Test Battery | 1 |
| Guidance Counselor's Evaluation | 1 |
| Guilford-Zimmerman | 1 |
| LPN State Board Scores | 1 |
| Math and Science Comprehension Achievement | 1 |
| Motivation | 1 |
| Nelson-Denny Reading Test | 1 |
| Nursing Aptitude Exam | 1 |
| Nursing Math Test | 1 |
| PACE | 1 |
| Pasadena Judgment in Nursing | 1 |
| Personality Test (CPI) | 1 |
| Pre-admission Test | 1 |
| Predicted University Class Centile | 1 |
| Pre-nursing Profile (Peter Hampton, Ph.D.) | 1 |
| Reading Comprehension Achievement Test | 1 |
| Resident of State | 1 |
| RSE | 1 |
| Strong-Campbell Interest Inventory | 1 |
| Washington State Prediction Test | 1 |
| Number of nonnursing courses already completed | 1 |
| 4.5 Graduation Index for 12 Hours College Work | 1 |

**Table II-10.—Admission criteria used in student selection: frequency of inclusion in "four most critical criteria" and significant differences, by region and by type**

| Admission criteria | Inclusion frequency | | Signficant differences by type | | | Significant differences by region | | | |
|---|---|---|---|---|---|---|---|---|---|
| | No. | Pct. | A.D. | Dip. | Bacc. | I | II | III | IV |
| High school GPA | 61 | 40.6 | | | | | | | |
| ACT scores | 57 | 38.0 | | | | | (1)<br>58.0<br>H | | |
| High school rank | 55 | 36.6 | | | | (1)<br>55.0<br>H | | | |
| Interview | 54 | 36.0 | | (3)<br>54.0<br>H | (2)<br>15.0<br>L | | | | |
| Health data | 52 | 34.6 | | | | | | | |
| College GPA | 51 | 34.0 | | (1)<br>6.0<br>L | | | | | (3)<br>63.0<br>H |
| SAT scores | 44 | 29.3 | (3)<br>18.0<br>L | | | (1)<br>55.0<br>H | | | |
| Personal references | 15 | 10.0 | | (2)<br>20.0<br>H | | | | | |
| NLN test scores | 17 | 11.3 | | (1)<br>28.0<br>H | | (2)<br>24.0<br>H | | | |
| Biographical data | 10 | 6.6 | | | | | | | |
| Ethnic and racial background | 4 | 2.6 | | | | | | | |
| Autobiographical essay | 3 | 2.0 | | | | | | | |
| MMPI | 1 | 0.6 | | | | | | | |

[1] $p < .001$

[2] $p < .01$

[3] $p < .05$

NOTE: H=high
L=low

### Table II-11—Distribution, by percent, of use of admission criteria, by school type controlling for region

| Admission criteria | School type by region | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | North Atlantic | | | | Midwest | | | | South | | | | West | | | |
| | A.D. | Dip. | Bacc. | p | A.D. | Dip. | Bacc. | p | A.D. | Dip. | Bacc. | p | A.D. | Dip. | Bacc. | p |
| Health data | 70.0 | 95.0 | 63.6 | | 72.2 | 100.0 | 70.0 | | 92.3 | 100.0 | 77.8 | | 83.3 | 100.0 | 50.0 | |
| High school rank | 80.0 | 95.0 | 100.0 | | 77.8 | 88.2 | 60.0 | | 73.1 | 70.0 | 44.4 | | 8.3 | 66.7 | 50.0 | |
| High school GPA | 73.1 | 90.0 | 55.6 | | 66.7 | 100 | 50.0 | | 40.0 | 40.0 | 45.5 | | 22.2 | 47.1 | 40.0 | |
| Interview | 40.0 | 100.0 | 45.5 | (¹) | 50.0 | 88.2 | 50.0 | (³) | 80.8 | 90.0 | 11.1 | (¹) | 66.7 | 66.7 | 25.0 | |
| College GPA | 66.7 | 35.0 | 72.7 | | 77.8 | 52.9 | 80.0 | (²) | 65.4 | 60.0 | 66.7 | | 91.7 | 100.0 | 100.0 | |
| Biographical data | 50.0 | 85.0 | 27.3 | | 50.0 | 94.1 | 40.0 | (³) | 57.7 | 60.0 | 44.4 | | 50.0 | 66.7 | 50.0 | |
| Personal references | 20.0 | 100.0 | 45.5 | (¹) | 39.8 | 88.2 | 30.0 | (³) | 23.1 | 80.0 | 44.4 | (³) | 58.3 | 100.0 | 25.0 | |
| ACT scores | 50.0 | 10.0 | 18.2 | (³) | 72.2 | 88.2 | 70.0 | | 53.8 | 90.0 | 33.3 | (²) | 33.3 | 0.0 | 50.0 | |
| SAT scores | 50.0 | 95.0 | 90.9 | (³) | 27.8 | 47.1 | 20.0 | | 50.0 | 50.0 | 33.3 | | 0.0 | 66.7 | 25.0 | |
| Autobiographical essay | 30.0 | 55.0 | 27.3 | | 11.1 | 70.6 | 10.0 | (¹) | 26.9 | 50.0 | 0.0 | (³) | 33.3 | 33.3 | 25.0 | |
| NLN test scores | 10.0 | 65.0 | 9.1 | (³) | 5.6 | 29.4 | 10.0 | | 3.8 | 30.0 | 0.0 | (²) | 0.0 | 0.0 | 0.0 | |
| Ethnic and racial background | 10.0 | 5.0 | 0.0 | | 22.2 | 5.9 | 10.0 | | 3.8 | 0.0 | 11.1 | | 33.3 | 33.3 | 25.0 | |
| MMPI | 0.0 | 10.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 3.8 | 10.0 | 0.0 | | 0.0 | 33.3 | 0.0 | |
| Parents' educational level | 0.0 | 5.0 | 0.0 | | 0.0 | 11.8 | 0.0 | | 0.0 | 20.0 | 0.0 | | 0.0 | 0.0 | 0.0 | |
| Religious affiliation | 0.0 | 0.0 | 0.0 | | 0.0 | 11.8 | 10.0 | | 3.8 | 0.0 | 11.1 | | 0.0 | 0.0 | 0.0 | |

¹ p<.001
² p<.05
³ p<.01

### Table II-12.—Distribution, by percent, of use of admission criteria, by region controlling for school type

| Admission criteria | School type by region | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Associate degree | | | | | Diploma | | | | | Baccalaureate | | | | |
| | I | II | III | IV | p | I | II | III | IV | p | I | II | III | IV | p |
| Health data | 70.0 | 72.2 | 92.3 | 83.3 | | 95.0 | 100.0 | 100.0 | 100.0 | | 63.6 | 70.0 | 77.8 | 50.0 | |
| High school rank | 80.0 | 77.8 | 73.1 | 8.3 | (¹) | 95.0 | 88.2 | 70.0 | 66.7 | | 100.0 | 60.0 | 44.4 | 50.0 | (³) |
| High school GPA | 73.1 | 66.7 | 40.0 | 22.2 | | 90.0 | 100.0 | 40.0 | 47.1 | | 55.6 | 50.0 | 45.5 | 40.0 | |
| Interview | 40.0 | 50.0 | 80.8 | 66.7 | | 100.0 | 88.2 | 90.0 | 66.7 | | 45.5 | 50.0 | 11.1 | 25.0 | |
| College GPA | 66.7 | 77.8 | 65.4 | 91.7 | | 35.0 | 52.9 | 60.0 | 100.0 | | 72.7 | 80.0 | 66.7 | 100.0 | |
| Biographical data | 50.0 | 50.0 | 57.7 | 50.0 | | 85.0 | 94.1 | 60.0 | 66.7 | | 27.3 | 40.0 | 44.4 | 50.0 | |
| Personal references | 20.0 | 39.8 | 23.1 | 58.3 | | 100.0 | 88.2 | 80.0 | 100.0 | | 45.5 | 30.0 | 44.4 | 25.0 | |
| ACT scores | 50.0 | 72.2 | 53.8 | 33.3 | | 10.0 | 88.2 | 90.0 | 0.0 | (¹) | 18.2 | 70.0 | 33.3 | 50.0 | |
| SAT scores | 50.0 | 27.8 | 50.0 | 0.0 | (²) | 95.0 | 47.1 | 50.0 | 66.7 | (³) | 90.9 | 20.0 | 33.3 | 25.0 | (³) |
| Autobiographical essay | 30.0 | 11.1 | 26.9 | 33.3 | | 55.0 | 70.6 | 50.0 | 33.3 | | 27.3 | 10.0 | 0.0 | 25.0 | |
| NLN test scores | 10.0 | 5.6 | 3.8 | 0.0 | | 65.0 | 29.4 | 30.0 | 0.0 | (²) | 9.1 | 10.0 | 0.0 | 0.0 | |
| Ethnic and racial background | 10.0 | 22.2 | 3.8 | 33.3 | | 5.0 | 5.9 | 0.0 | 33.3 | | 0.0 | 10.0 | 11.1 | 25.0 | |
| MMPI | 0.0 | 0.0 | 3.8 | 0.0 | | 10.0 | 0.0 | 10.0 | 33.3 | | 0.0 | 0.0 | 0.0 | 0.0 | |
| Parents' educational level | 0.0 | 0.0 | 0.0 | 0.0 | | 5.0 | 11.8 | 20.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | |
| Religious affiliation | 0.0 | 0.0 | 3.8 | 0.0 | | 0.0 | 11.8 | 0.0 | 0.0 | | 0.0 | 10.0 | 11.1 | 0.0 | |

¹ p<.001
² p<.05
³ p<.01

**Table II-13.—Distribution, by percent, of inclusion of admission criteria in "four most critical criteria," by school type controlling for region**

| Admission criteria | School type by region | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | North Atlantic | | | | Midwest | | | | South | | | | West | | | |
| | A.D. | Dip. | Bacc. | p | A.D. | Dip. | Bacc. | p | A.D. | Dip. | Bacc. | p | A.D. | Dip. | Bacc. | p |
| High school GPA | 40.0 | 40.0 | 45.5 | | 22.2 | 47.1 | 40.0 | | 50.0 | 50.0 | 44.4 | | 25.0 | 66.7 | 25.0 | |
| ACT scores | 40.0 | 5.0 | 9.1 | (1) | 55.6 | 64.7 | 50.0 | | 53.8 | 60.0 | 22.2 | | 16.7 | 0.0 | 25.0 | |
| High school rank | 40.0 | 60.0 | 63.6 | | 55.6 | 47.1 | 20.0 | | 30.8 | 0.0 | 22.2 | | 8.3 | 0.0 | 25.0 | |
| Interview | 20.0 | 60.0 | 27.3 | | 27.8 | 41.2 | 20.0 | | 50.0 | 70.0 | 0.0 | (3) | 16.7 | 33.3 | 0.0 | |
| Health data | 30.0 | 40.0 | 9.1 | | 27.8 | 23.5 | 40.0 | | 46.2 | 40.0 | 44.4 | | 41.7 | 66.7 | 0.0 | |
| College GPA | 40.0 | 0.0 | 36.4 | (2) | 55.6 | 5.9 | 50.0 | (2) | 38.5 | 10.0 | 44.4 | | 58.3 | 33.3 | 100.0 | |
| SAT scores | 20.0 | 75.0 | 54.5 | (1) | 22.2 | 11.8 | 10.0 | | 23.1 | 10.0 | 44.4 | | 0.0 | 66.7 | 25.0 | |
| Personal references | 10.0 | 5.0 | 0.0 | | 5.6 | 17.6 | 10.0 | | 3.8 | 50.0 | 0.0 | (3) | 8.3 | 33.3 | 0.0 | |
| NLN test scores | 10.0 | 40.0 | 9.1 | | 0.0 | 23.5 | 10.0 | | 0.0 | 20.0 | 0.0 | | 0.0 | 0.0 | 0.0 | |
| Biographical data | 0.0 | 0.0 | 9.1 | | 11.1 | 11.8 | 10.0 | | 3.8 | 10.0 | 11.1 | | 0.0 | 0.0 | 25.0 | |
| Ethnic and racial background | 0.0 | 0.0 | 0.0 | | 11.1 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 16.7 | 0.0 | 0.0 | |
| Autobiographical essay | 0.0 | 5.0 | 0.0 | | 0.0 | 5.9 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 25.0 | |
| MMPI | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 3.8 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | |

[1] $p<.05$
[2] $p<.01$
[3] $p<.001$

**Table II-14.—Distribution, by percent, of inclusion of admission criteria in "four most critical criteria," by region controlling for school type**

| Admission criteria | School type by region | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Associate degree | | | | | Diploma | | | | | Baccalaureate | | | | |
| | I | II | III | IV | p | I | II | III | IV | p | I | II | III | IV | p |
| High school GPA | 40.0 | 22.2 | 50.0 | 25.0 | | 40.0 | 47.1 | 50.0 | 66.7 | | 45.5 | 40.0 | 44.4 | 25.0 | |
| ACT scores | 40.0 | 55.6 | 53.8 | 16.7 | | 5.0 | 64.7 | 60.0 | 0.0 | (1) | 9.1 | 50.0 | 22.2 | 25.0 | |
| High school rank | 40.0 | 55.6 | 30.8 | 8.3 | | 60.4 | 47.1 | 0.0 | 0.0 | (2) | 63.6 | 20.0 | 22.2 | 25.0 | |
| Interview | 20.0 | 27.8 | 50.0 | 16.7 | | 60.0 | 41.2 | 70.0 | 33.3 | | 27.3 | 20.0 | 0.0 | 0.0 | |
| Health data | 30.0 | 27.8 | 46.2 | 41.7 | | 40.0 | 23.5 | 40.0 | 66.7 | | 9.1 | 40.0 | 44.4 | 0.0 | |
| College GPA | 40.0 | 55.6 | 38.5 | 58.3 | | 0.0 | 5.9 | 10.0 | 33.3 | | | | | | |
| SAT scores | 20.0 | 22.2 | 23.1 | 0.0 | | 75.0 | 11.8 | 10.0 | 66.7 | (1) | 54.5 | 10.0 | 44.4 | 25.0 | |
| Personal references | 10.0 | 5.6 | 3.8 | 8.3 | | 5.0 | 17.6 | 50.0 | 33.3 | (3) | 0.0 | 10.0 | 0.0 | 0.0 | |
| NLN test scores | 10.0 | 0.0 | 0.0 | 0.0 | | 40.0 | 23.5 | 20.0 | 0.0 | | 9.1 | 10.0 | 0.0 | 0.0 | |
| Biographical data | 0.0 | 11.1 | 3.8 | 0.0 | | 0.0 | 11.8 | 10.0 | 0.0 | | 9.1 | 10.0 | 11.1 | 25.0 | |
| Ethnic and racial background | 0.0 | 11.1 | 0.0 | 16.7 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | |
| Autiographical essay | 0.0 | 0.0 | 0.0 | 0.0 | | 5.0 | 5.9 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 25.0 | |
| MMPI | 0.0 | 0.0 | 3.8 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | |

[1] $p<.001$
[2] $p<.01$
[3] $p<.05$

Table II-15.—Frequency of reported use of 19 cognitive and noncognitive predictive measures, by responding schools of nursing

| Measures | N | Percent |
|---|---|---|
| NLN Achievement Tests | 88 | 58.7 |
| American College Testing Program (ACT) | 81 | 54.0 |
| Scholastic Aptitude Tests (SAT) | 66 | 44.0 |
| Kuder Preference Record-Vocational | 5 | 2.7 |
| Minnesota Multiphasic Personality Inventory (MMPI) | 5 | 3.3 |
| Strong Vocational Interest Blank for Women | 5 | 3.3 |
| Nurse Attitudes Inventory | 3 | 2.0 |
| College Qualifications Test | 2 | 1.3 |
| Edwards Personal Preference Schedule | 2 | 1.3 |
| Personal Orientation Inventory | 2 | 1.3 |
| Allport-Vernon-Lindzey Study of Values | 1 | .6 |
| Adjectives Check List | 1 | .6 |
| Lorge-Thorndike Intelligence Tests, College Edition | 1 | .6 |
| Omnibus Personality Inventory | 1 | .6 |
| Wechsler Adult Intelligence Scale | 1 | .6 |
| Watson-Glaser Critical Thinking Appraisal | 0 | 0 |
| IPAT Self-Analysis Form | 0 | 0 |
| Sixteen Personality Factor Questionnaire | 0 | 0 |
| Thurstone Test of Mental Alertness | 0 | 0 |

**Table II-16.—Alternate student performance predictors used by schools and frequency of use**

| Alternate student performance predictors | Times used |
|---|---|
| SCAT | 6 |
| California Achievement Tests | 2 |
| CLEP | 2 |
| Comparative Guidance and Placement Test | 3 |
| Co-op | 2 |
| Davis Reading Test | 3 |
| Dent Psychometric Exam | 3 |
| High school class rank | 2 |
| High school GPA | 2 |
| OTIS | 3 |
| Personal interview | 2 |
| Psychological Corporation Test (PCT) | 3 |
| Smeltzer | 2 |
| Teacher-made tests | |
| Bobbs-Merrill Test | 1 |
| College Entrance Exam Board (CEEB) | 1 |
| Clinical Behavior Evaluation | 1 |
| Cognitive Mapping | 1 |
| Cooperative English Test | 1 |
| DAT | 1 |
| English/Math Placement Tests | 1 |
| Entrance Exams for Schools of Nursing | 1 |
| Fisher Psychometric Test | 1 |
| Gordon's Personal Profile and Inventory | 1 |
| Guilford-Zimmerman | 1 |
| Instructor Evaluation Tools | 1 |
| Intelligence Quotient (IQ) | 1 |
| Math Comprehension Achievement Test | 1 |
| Math for Pharmacology Test | 1 |
| Nelson-Denny | 1 |
| New York State College Prof. Exam | 1 |
| Nurse Attitude Inventory (Thurston's) | 1 |
| Nursing Student Attitude Inventory | 1 |
| Perdue Pegboard | 1 |
| Post-admissions Guidance Battery | 1 |
| Pre-entrance NAE | 1 |
| Problem-solving Situations | 1 |
| Psychological Aptitude Test | 1 |
| Psychological Corporation PNE | 1 |
| Reading Comprehension Achievement Test | 1 |
| Survey of Study Habits and Attitudes | 1 |
| Washington State Prediction Test | 1 |
| Wide Range Aptitude Test | 1 |
| Word Clues Test | 1 |
| Test similar to SAT (name not given) | 1 |

**Table II-17.—Distribution of mean ratings[1] of predictive capabilities of three most commonly used performance predictors, by school type (N's are schools who both used and rated predictive capabilities)**

| Predictors | Academic performance | | | | Clinical performance | | | | Program completion | | | | State Board Examination scores | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A.D. | Dip. | Bacc. | F | A.D. | Dip. | Bacc. | F | A.D. | Dip. | Bacc. | F | A.D. | Dip. | Bacc. | F |
| ACT | 2.31 | 2.28 | 2.40 | 0.13 | 0.97 | 1.04 | 1.13 | 0.11 | 1.52 | 1.57 | 1.71 | 0.11 | 1.90 | 1.91 | 2.14 | 0.19 |
| Total | | 2.31 | | ([2]) | | 1.02 | | | | 1.56 | | | | 1.93 | | |
| | | (N=67) | | | | (N=63) | | | | (N=59) | | | | (N=59) | | |
| NLN | 2.17 | 2.08 | 1.33 | 3.58 | 1.29 | 1.38 | 1.11 | 0.35 | 1.60 | 1.56 | 1.00 | 1.42 | 1.91 | 2.06 | 1.70 | 0.72 |
| Total | | 2.01 | | ([3]) | | 1.31 | | | | 1.50 | | | | 1.96 | | |
| | | (N=70) | | | | (N=67) | | | | (N=64) | | | | (N=68) | | |
| SAT | 2.39 | 2.17 | 2.89 | 7.82 | 1.21 | 0.71 | 1.50 | 3.03 | 1.83 | 1.47 | 1.78 | 0.92 | 2.24 | 1.94 | 2.67 | 2.49 |
| Total | | 2.37 | | | | 1.02 | | | | 1.67 | | | | 2.20 | | |
| | | (N=51) | | | | (N=43) | | | | (N=46) | | | | (N=44) | | |

[1] Ratings used by respondents:
3=Of great significance in predicting this performance.
2=Of moderate significance in predicting this performance.
1=Of little significance in predicting this performance.
0=Of no significance in predicting this performance.

[2] p<.05

[3] p<.01

**Table II-18.—Distribution of mean ratings[1] of predictive capabilities of three most commonly used performance predictors by region (N's are schools who both used and rated predictive capabilities)**

| Predictors | Academic performance | | | | | Clinical performance | | | | | Program completion | | | | | State Board examination scores | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | I | II | III | IV | F | I | II | III | IV | F | I | II | III | IV | F | I | II | III | IV | F |
| ACT | 2.33 | 2.26 | 2.48 | 1.80 | 1.82 | 1.33 | 0.87 | 1.17 | 0.75 | 0.86 | 1.17 | 1.67 | 1.64 | 1.00 | 0.89 | 1.83 | 2.04 | 2.00 | 1.00 | 1.45 |
| Total | | 2.31 | | | | | 1.02 | | | | | 1.56 | | | | | 1.93 | | | |
| | | (N=67) | | | | | (N=63) | | | | | (N=59) | | | | | (N=59) | | | |
| NLN | 1.86 | 1.96 | 2.32 | 1.00 | 2.22 | 1.05 | 1.52 | 1.45 | 0.50 | 1.95 | 1.43 | 1.57 | 1.53 | 1.00 | 0.18 | 2.10 | 2.00 | 1.91 | 1.00 | 1.51 |
| Total | | 2.01 | | | | | 1.31 | | | | | 1.50 | | | | | 1.96 | | | |
| | | (N=70) | | | | | (N=67) | | | | | (N=64) | | | | | (N=68) | | | |
| SAT | 2.35 | 2.57 | 2.35 | 2.25 | 0.41 | 1.00 | 0.83 | 1.23 | 0.75 | 0.44 | 1.62 | 1.83 | 1.67 | 1.75 | 0.11 | 2.10 | 2.75 | 2.25 | 2.00 | 0.77 |
| Total | | 2.37 | | | | | 1.02 | | | | | 1.67 | | | | | 2.20 | | | |
| | | (N=51) | | | | | (N=43) | | | | | (N=46) | | | | | (N=44) | | | |

[1] Rating scale:
3=Of great significance in predicting this performance.
2=Of moderate significance in predicting this performance.
1=Of little significance in predicting this performance.
0=Of no significance in predicting this performance.

**Table II-19.—Frequency of use and mean rating[1] of importance of measures of student progress among 150 schools of nursing**

| | N | $\overline{X}$ |
|---|---|---|
| Theory | | |
| Teacher-made exams | 150 | 2.91 |
| Term papers | 137 | 1.77 |
| Oral presentations/exams | 137 | 1.72 |
| NLN Achievement Tests | 124 | 1.34 |
| Self-instructional materials | 111 | 2.07 |
| Senior projects | 102 | 1.88 |
| Clinical performance | | |
| Technical skills ratings | 149 | 2.68 |
| Interpersonal skill ratings | 149 | 2.79 |
| Problem-solving skills ratings | 149 | 2.88 |
| Assessment skills ratings | 148 | 2.80 |
| Leadership skills ratings | 140 | 2.13 |
| Teaching skills ratings | 138 | 2.30 |
| Self-instructional materials | 104 | 2.01 |
| Skills lab | | |
| Performance ratings | 132 | 2.59 |
| Teacher-made exams | 115 | 2.40 |
| Self-instructional material | 107 | 2.21 |

[1] Rating scale:
3 = Very important.
2 = Moderately important.
1 = Somewhat important.
0 = Not important.

**Table II-20.—Alternate student progression measures given by schools and frequency of use**

| | Times used |
|---|---|
| Theory | |
| A-V units of instruction | 1 |
| studies | 4 |
| Class participation | 2 |
| Class projects | 2 |
| Daily quizzes | 1 |
| Group activities | 1 |
| Guided independent study | 3 |
| Logs | 1 |
| Math, drugs, and solutions programmed instruction | 1 |
| Multi-media curriculum | 1 |
| NLN comprehensives | 1 |
| Nursing histories | 1 |
| Post-experience conferences | 1 |
| Pretests | 1 |
| Simulated lab testing | 1 |
| Small group discussions | 2 |
| Student course evaluations | 1 |
| Tutoring (individual and group) | 1 |
| Work book study guide | 1 |
| Written reports of special assignments | 1 |
| Clinical performance | |
| Ability to make own clinical assignments which are realistic and progressive | 1 |
| Bibliography cards | 1 |
| Communication skills ratings | 3 |
| Demonstrations | 1 |
| Diary | 1 |
| Health team membership skills | 5 |
| Nursing care plans | 5 |
| Personal appearance | 1 |
| Pharmacology cards | 4 |
| Professional development | 3 |
| Safety factors ratings | 1 |
| Specific behavioral objectives | 1 |
| Student self-evaluations | 8 |
| Teacher-made learning modules | 1 |
| Teacher-student evaluations | 2 |
| Written clinical assignment preparation | 1 |
| Skills lab | |
| Applying theory to clinical practice | 1 |
| Demonstrations | 2 |
| Nursing care plans | 1 |
| Observation and teacher evaluation | 1 |
| Responsibility for own learning | 1 |
| Self-evaluation | 4 |
| Videotaping student techniques | 2 |
| Others | |
| Attendance to theory and practice | 1 |
| Behavioral development of student | 2 |
| Instructor evaluation tools | 2 |
| Student self-evaluation | 3 |
| Team teaching and planning | 1 |

**Table II-21.—Reported use and perceived value of student progression measures in theory by 150 schools of nursing, by program type**

| Measures rated | Rating scale | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Very important | | Moderately important | | Somewhat important | | Not important | | Not used | |
| | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. |
| *Number of programs rating:* | | | | | | | | | | |
| Teacher-made examinations | | | | | | | | | | |
| A.D. | 61 | 92.0 | 5 | 8.0 | | | | | | |
| Diploma | 47 | 94.0 | 3 | 6.0 | | | | | | |
| Baccalaureate | 29 | 85.0 | 5 | 15.0 | | | | | | |
| Total | 137 | | 13 | | | | | | | |
| Term papers | | | | | | | | | | |
| A.D. | 10 | 15.0 | 16 | 24.0 | 30 | 45.0 | | | 7 | 11.0 |
| Diploma | 7 | 14.0 | 16 | 32.0 | 20 | 40.0 | 4 | 8.0 | 2 | 4.0 |
| Baccacaureate | 13 | 38.0 | 18 | 53.0 | 3 | 9.0 | | | | |
| Total | 30 | | 50 | | 53 | | 4 | | 9 | |
| Oral presentation | | | | | | | | | | |
| A.D. | 9 | 14.0 | 22 | 33.0 | 25 | 38.0 | 1 | 2.0 | 4 | 6.0 |
| Diploma | 5 | 10.0 | 25 | 50.0 | 15 | 30.0 | 2 | 4.0 | 3 | 6.0 |
| Baccalaureate | 7 | 21.0 | 14 | 41.0 | 11 | 32.0 | | | | |
| Total | 21 | | 61 | | 51 | | 3 | | 7 | |
| NLN Tests | | | | | | | | | | |
| A.D. | 12 | 18.0 | 10 | 15.0 | 23 | 35.0 | 8 | 12.0 | 9 | 14.0 |
| Diploma | 5 | 10.0 | 20 | 40.0 | 12 | 24.0 | 8 | 16.0 | 4 | 8.0 |
| Baccalaureate | 1 | 3.0 | 4 | 12.0 | 9 | 26.0 | 11 | 32.0 | 5 | 15.0 |
| Total | 18 | | 34 | | 44 | | 27 | | 18 | |
| Senior project | | | | | | | | | | |
| A.D. | 5 | 8.0 | 9 | 14.0 | 20 | 30.0 | 1 | 2.0 | 21 | 32.0 |
| Diploma | 10 | 20.0 | 18 | 36.0 | 11 | 22.0 | 1 | 2.0 | 9 | 18.0 |
| Baccalaureate | 15 | 44.0 | 6 | 18.0 | 3 | 9.0 | 1 | 3.0 | 4 | 12.0 |
| Total | 30 | | 33 | | 34 | | 3 | | 34 | |
| Self-instructional material | | | | | | | | | | |
| A.D. | 25 | 38.0 | 20 | 30.0 | 9 | 14.0 | 1 | 2.0 | 2 | 3.0 |
| Diploma | 8 | 16.0 | 14 | 28.0 | 10 | 20.0 | 3 | 6.0 | 13 | 26.0 |
| Baccalaureate | 8 | 24.0 | 7 | 21.0 | 6 | 18.0 | | | 8 | 24.0 |
| Total | 41 | | 41 | | 25 | | 4 | | 23 | |

**Table II-22.—Reported use and perceived value of student progression measures in clinical performance by 150 schools of nursing, by program type**

| Measures rated | Rating scale | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Very important | | Moderately important | | Somewhat important | | Not important | | Not used | |
| | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. |
| Number of programs rating: | | | | | | | | | | |
| Technical skill rating | | | | | | | | | | |
| A.D. | 57 | 86.0 | 7 | 11.0 | 2 | 3.0 | | | | |
| Diploma | 41 | 82.0 | 9 | 18.0 | | | | | | |
| Baccalaureate | 11 | 32.0 | 17 | 50.0 | 5 | 15.0 | | | 1 | 3.0 |
| Total | 109 | | 33 | | 7 | | | | 1 | |
| Teaching skills | | | | | | | | | | |
| A.D. | 12 | 18.0 | 28 | 42.0 | 13 | 20.0 | 1 | 2.0 | 3 | 5.0 |
| Diploma | 30 | 60.0 | 15 | 30.0 | 5 | 10.0 | | | | |
| Baccalaureate | 22 | 65.0 | 9 | 26.0 | 3 | 9.0 | | | | |
| Total | 64 | | 52 | | 21 | | 1 | | 3 | |
| IPR skills | | | | | | | | | | |
| A.D. | 47 | 71.0 | 17 | 26.0 | 1 | 2.0 | | | | |
| Diploma | 39 | 78.0 | 11 | 22.0 | | | | | | |
| Baccalaureate | 32 | 94.0 | 2 | 6.0 | | | | | | |
| Total | 118 | | 30 | | 1 | | | | | |
| Assessment skills | | | | | | | | | | |
| A.D. | 49 | 74.0 | 14 | 21.0 | 1 | 2.0 | | | | |
| Diploma | 41 | 82.0 | 9 | 18.0 | | | | | | |
| Baccalaureate | 30 | 88.0 | 4 | 12.0 | | | | | | |
| Total | 120 | | 27 | | 1 | | | | | |
| Problem-solving skill | | | | | | | | | | |
| A.D. | 55 | 83.0 | 9 | 14.0 | 1 | 2.0 | | | | |
| Diploma | 44 | 88.0 | 6 | 12.0 | | | | | | |
| Baccalaureate | 33 | 97.0 | 1 | 3.0 | | | | | | |
| Total | 132 | | 16 | | 1 | | | | | |
| Leadership skill | | | | | | | | | | |
| A.D. | 9 | 14.0 | 25 | 38.0 | 17 | 26.0 | 5 | 8.0 | 6 | 9.0 |
| Diploma | 18 | 36.0 | 27 | 54.0 | 5 | 10.0 | | | | |
| Baccalaureate | 23 | 68.0 | 11 | 32.0 | | | | | | |
| Total | 50 | | 63 | | 22 | | 5 | | 6 | |
| Self-instructional material | | | | | | | | | | |
| A.D. | 21 | 32.0 | 16 | 24.0 | 9 | 14.0 | | | 11 | 17.0 |
| Diploma | 7 | 14.0 | 10 | 20.0 | 14 | 28.0 | 4 | 8.0 | 13 | 26.0 |
| Baccalaureate | 8 | 24.0 | 11 | 32.0 | 4 | 12.0 | | | | 8.0 |
| Total | 36 | | 37 | | 27 | | 4 | | 24 | |

**Table II-23.—Reported use and perceived value of student progression measures in skills laboratory by 150 schools of nursing, by program type**

| Measures rated | Rating scale | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Very important | | Moderately important | | Somewhat important | | Not important | | Not used | |
| | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. |
| Number of programs rating: | | | | | | | | | | |
| Teacher-made examinations | | | | | | | | | | |
| A.D. | 32 | 48.0 | 14 | 21.0 | 4 | 6.0 | | | 1 | 2.0 |
| Diploma | 28 | 56.0 | 12 | 24.0 | 2 | 4.0 | 2 | 4.0 | 5 | 10.0 |
| Baccalaureate | 10 | 29.0 | 8 | 24.0 | 4 | 12.0 | 2 | 6.0 | 4 | 12.0 |
| Total | 70 | | 34 | | 10 | | 4 | | 10 | |
| Performance ratings | | | | | | | | | | |
| A.D. | 48 | 73.0 | 10 | 15.0 | 1 | 2.0 | | | 1 | 2.0 |
| Diploma | 28 | 56.0 | 12 | 24.0 | 2 | 4.0 | 2 | 4.0 | 5 | 10.0 |
| Baccalaureate | 15 | 44.0 | 9 | 26.0 | 4 | 12.0 | 1 | 3.0 | 1 | 3.0 |
| Total | 91 | | 31 | | 7 | | 3 | | 7 | |
| Self-instructional material | | | | | | | | | | |
| A.D. | 29 | 44.0 | 14 | 21.0 | 4 | 6.00 | | | 6 | 9.0 |
| Diploma | 10 | 20.0 | 11 | 22.0 | 12 | 24.0 | 3 | 6.0 | 11 | 22.0 |
| Baccalaureate | 11 | 32.0 | 8 | 24.0 | 5 | 15.0 | | | 6 | 18.0 |
| Total | 50 | | 33 | | 21 | | 3 | | 23 | |

**Table II-24.—Reported use and perceived value of student progression measures in theory by 150 schools of nursing, by region**

| Measures rated | Rating scale | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Very important | | Moderately important | | Somewhat important | | Not important | | Not used | |
| | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. |
| Programs by region rating: | | | | | | | | | | |
| Teacher-made examinations | | | | | | | | | | |
| North Atlantic | 41 | 100.0 | | | | | | | | |
| Midwest | 40 | 89.0 | 5 | 11.0 | | | | | | |
| South | 39 | 87.0 | 6 | 13.0 | | | | | | |
| West | 17 | 89.0 | 2 | 11.0 | | | | | | |
| Total | 137 | | 13 | | | | | | | |
| Term papers | | | | | | | | | | |
| North Atlantic | 8 | 20.0 | 14 | 34.0 | 12 | 29.0 | 3 | 7.0 | 2 | 4.0 |
| Midwest | 10 | 22.0 | 17 | 38.0 | 16 | 36.0 | | | 2 | 4.0 |
| South | 9 | 20.0 | 13 | 29.0 | 18 | 40.0 | 1 | 2.0 | 3 | 7.0 |
| West | 3 | 16.0 | 6 | 32.0 | 7 | 37.0 | 4 | | 2 | 11.0 |
| Total | 30 | | 50 | | 53 | | | | 9 | |
| Oral presentation | | | | | | | | | | |
| North Atlantic | 3 | 7.0 | 20 | 49.0 | 13 | 32.0 | 3 | 7.0 | 1 | 2.0 |
| Midwest | 7 | 16.0 | 16 | 36.0 | 17 | 38.0 | | | 2 | 4.0 |
| South | 8 | 18.0 | 17 | 38.0 | 15 | 33.0 | | | 3 | 7.0 |
| West | 3 | 16.0 | 8 | 42.0 | 6 | 32.0 | | | 1 | 5.0 |
| Total | 21 | | 61 | | 51 | | 3 | | 7 | |
| NLN Tests | | | | | | | | | | |
| North Atlantic | 3 | 7.0 | 8 | 20.0 | 12 | 29.0 | 8 | 20.0 | 6 | 15.0 |
| Midwest | 5 | 11.0 | 13 | 29.0 | 14 | 31.0 | 6 | 13.0 | 5 | 11.0 |
| South | 9 | 20.0 | 9 | 20.0 | 13 | 29.0 | 7 | 16.0 | 4 | 9.0 |
| West | 1 | 5.0 | 4 | 21.0 | 5 | 26.0 | 6 | 32.0 | 3 | 16.0 |
| Total | 18 | | 34 | | 44 | | 27 | | 18 | |
| Senior projects | | | | | | | | | | |
| North Atlantic | 10 | 24.0 | 10 | 24.0 | 10 | 24.0 | | | 9 | 22.0 |
| Midwest | 8 | 18.0 | 10 | 22.0 | 9 | 20.0 | 2 | 4.0 | 10 | 22.0 |
| South | 9 | 20.0 | 9 | 20.0 | 11 | 24.0 | 1 | 2.0 | 11 | 24.0 |
| West | 3 | 16.0 | 5 | 26.0 | 4 | 21.0 | | | 4 | 21.0 |
| Total | 30 | | 34 | | 34 | | 3 | | 34 | |
| Self-instructional material | | | | | | | | | | |
| North Atlantic | 7 | 17.0 | 13 | 32.0 | 6 | 15.0 | 1 | 2.0 | 10 | 24.0 |
| Midwest | 12 | 27.0 | 11 | 24.0 | 9 | 20.0 | 1 | 2.0 | 8 | 18.0 |
| South | 15 | 33.0 | 12 | 27.0 | 6 | 13.0 | 1 | 2.0 | 4 | 9.0 |
| West | 7 | 37.0 | 5 | 26.0 | 4 | 21.0 | 1 | 5.0 | 1 | 5.0 |
| Total | 41 | | 41 | | 25 | | 4 | | 23 | |

**Table II-25.—Reported use and perceived value of student progression measures in clinical performance by 150 schools of nursing, by region**

| Measures rated | Rating scale | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Very important | | Moderately important | | Somewhat important | | Not important | | Not Used | |
| | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. |
| Programs by regions rating: | | | | | | | | | | |
| Technical skill ratings | | | | | | | | | | |
| North Atlantic | 27 | 66.0 | 10 | 24.0 | 4 | 10.0 | | | | |
| Midwest | 31 | 69.0 | 11 | 24.0 | 3 | 7.0 | | | | |
| South | 36 | 80.0 | 9 | 20.0 | | | | | | |
| West | 15 | 79.0 | 3 | 16.0 | | | | | 1 | 5.0 |
| Total | 109 | | 33 | | 7 | | | | 1 | |
| Teaching skills | | | | | | | | | | |
| North Atlantic | 17 | 42.0 | 16 | 39.0 | 5 | 12.0 | | | 1 | 2.0 |
| Midwest | 21 | 47.0 | 17 | 38.0 | 6 | 13.0 | | | | |
| South | 17 | 38.0 | 11 | 24.0 | 10 | 22.0 | 1 | 2 | 2 | 4.0 |
| West | 9 | 47.0 | 8 | 42.0 | | | | | | |
| Total | 64 | | 52 | | 21 | | 1 | | 3 | |
| IPR skills | | | | | | | | | | |
| North Atlantic | 30 | 73.0 | 11 | 27.0 | | | | | | |
| Midwest | 38 | 84.0 | 7 | 16.0 | | | | | | |
| South | 37 | 82.0 | 7 | 16.0 | | | | | | |
| West | 13 | 68.0 | 5 | 26.0 | 1 | 5.0 | | | | |
| Total | 118 | | 30 | | 1 | | | | | |
| Assessment skills | | | | | | | | | | |
| North Atlantic | 35 | 85.0 | 6 | 15.0 | | | | | | |
| Midwest | 36 | 80.0 | 8 | 18.0 | | | | | | |
| South | 35 | 78.0 | 10 | 22.0 | | | | | | |
| West | 14 | 74.0 | 3 | 16.0 | | 5.0 | | | 1 | 5.0 |
| Total | 120 | | 27 | | 1 | | | | | |
| Problem-solving skills | | | | | | | | | 1 | |
| North Atlantic | 35 | 85.0 | 6 | 15.0 | | | | | | |
| Midwest | 40 | 89.0 | 4 | 9.0 | | | | | | |
| South | 39 | 87.0 | 6 | 13.0 | | | | | | |
| West | 18 | 95.0 | | | 1 | 5.0 | | | | |
| Total | 132 | | 16 | | 1 | | | | | |
| Leadership skills | | | | | | | | | | |
| North Atlantic | 11 | 26.0 | 21 | 51.0 | 4 | 10.0 | 2 | 5.0 | 2 | 5.0 |
| Midwest | 17 | 38.0 | 18 | 40.0 | 4 | 9.0 | 2 | 4.0 | 2 | 4.0 |
| South | 15 | 33.0 | 16 | 36.0 | 11 | 24.0 | 1 | 2.0 | 1 | 5.0 |
| West | 7 | 37.0 | 8 | 42.0 | 3 | 16.0 | | | 1 | 5.0 |
| Total | 50 | | 63 | | 22 | | 5 | | 6 | |
| Self-instructional material | | | | | | | | | | |
| North Atlantic | 6 | 15.0 | 14 | 34.0 | 9 | 22.0 | 1 | 2.0 | 8 | 20.0 |
| Midwest | 7 | 16.0 | 12 | 27.0 | 10 | 22.0 | | | 11 | 24.0 |
| South | 16 | 36.0 | 7 | 16.0 | 5 | 11.0 | 2 | 4.0 | 9 | 20.0 |
| West | 7 | 37.0 | 4 | 21.0 | 3 | 16.0 | 1 | 5.0 | 4 | 21.0 |
| Total | 36 | | 37 | | 27 | | 4 | | 32 | |

**Table II-26.—Reported use and perceived value of student progression measures in skills lab by 150 schools of nursing, by region**

| Measures rated | Rating scale | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Very important | | Moderately important | | Somewhat important | | Not important | | Not used | |
| | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. |
| Programs by regions rating: | | | | | | | | | | |
| Teacher-made examinations | | | | | | | | | | |
| North Atlantic | 17 | 15.0 | 7 | 17.0 | 4 | 10.0 | 2 | 5.0 | 7 | 17.0 |
| Midwest | 19 | 42.0 | 11 | 24.0 | 5 | 11.0 | | | 6 | 13.0 |
| South | 22 | 49.0 | 8 | 18.0 | 6 | 13.0 | | | 6 | 13.0 |
| West | 9 | 47.0 | 4 | 21.0 | | | 1 | 5.0 | 2 | 11.0 |
| Total | 67 | | 30 | | 15 | | 3 | | 21 | |
| Performance ratings | | | | | | | | | | |
| North Atlantic | 18 | 44.0 | 10 | 24.0 | 4 | 10.0 | 2 | 5.0 | 3 | 77.0 |
| Midwest | 27 | 60.0 | 10 | 22.0 | 1 | 2.0 | | | 4 | 9.0 |
| South | 32 | 71.0 | 9 | 20.0 | 1 | 2.0 | | | | |
| West | 14 | 74.0 | 2 | 11.0 | 1 | 5.0 | 1 | 5.0 | | |
| Total | 91 | | 31 | | 7 | | 3 | | 7 | |
| Self-instructional material | | | | | | | | | | |
| North Atlantic | 12 | 29.0 | 9 | 22.0 | 5 | 12.0 | 1 | 2.0 | 9 | 22.0 |
| Midwest | 12 | 27.0 | 13 | 29.0 | 7 | 16.0 | | | 7 | 16.0 |
| South | 18 | 40.0 | 7 | 16.0 | 7 | 16.0 | 1 | 2.0 | 5 | 11.0 |
| West | 8 | 42.0 | 4 | 21.0 | 2 | 12.0 | 1 | 5.0 | 2 | 11.0 |
| Total | 50 | | 33 | | 21 | | 3 | | 23 | |

**Table II-27.—Distribution of the average percent of the 1974 graduates of responding schools in each of six score categories on the five tests comprising the State Board Test Pool Examinations**

| Score category | Test | | | | |
|---|---|---|---|---|---|
| | Medical | Surgical | Obstetrical | Pediatric | Psychiatric |
| 700 and above | 2.0 | 2.3 | 2.2 | 1.6 | 1.8 |
| 600–699 | 19.3 | 18.8 | 16.5 | 17.5 | 17.3 |
| 500–599 | 36.3 | 36.4 | 37.7 | 34.8 | 34.1 |
| 400–499 | 24.7 | 27.8 | 24.9 | 27.1 | 26.6 |
| 350–399 | 6.2 | 5.1 | 6.2 | 6.2 | 7.5 |
| Below 350 | 3.7 | 3.7 | 4.1 | 4.5 | 4.7 |

**Table II-28.—Two-way analysis of variance: percent of 1974 graduates of responding schools of nursing obtaining**
**600 and above, by school type and region**

| Test | ANOVA Source | F | p | I: North Atlantic A.D. | I: North Atlantic Dip. | I: North Atlantic Bacc. | II: Midwest A.D. | II: Midwest Dip. | II: Midwest Bacc. | III: S A.D. | III: S Dip |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Medical | Type | 15.43 | .001 | 15.6 | 25.7 | 17.9 | 18.6 | 32.0 | 20.3 | 12.4 | 27.8 |
| | Region | 3.96 | .01 | | | | | | | | |
| | Type by region | 1.34 | n.s. | | | | | | | | |
| Surgical | Type | 14.88 | .001 | 13.8 | 21.2 | 12.7 | 20.8 | 33.7 | 17.6 | 15.7 | 27.7 |
| | Region | 7.78 | .001 | | | | | | | | |
| | Type by region | 1.97 | n.s. | | | | | | | | |
| Obstetrical | Type | 7.21 | .001 | 14.6 | 18.1 | 14.3 | 16.2 | 28.7 | 20.4 | 13.5 | 25.0 |
| | Region | 4.41 | .01 | | | | | | | | |
| | Type by region | 1.77 | n.s. | | | | | | | | |
| Pediatric | Type | 5.78 | .01 | 13.4 | 19.0 | 15.3 | 16.2 | 27.5 | 22.5 | 13.4 | 22.1 |
| | Region | 6.35 | .001 | | | | | | | | |
| | Type by region | 1.65 | n.s. | | | | | | | | |
| Psychiatric | Type | 5.31 | .01 | 11.6 | 18.9 | 21.0 | 16.7 | 25.0 | 29.4 | 11.7 | 16.7 |
| | Region | 6.39 | .001 | | | | | | | | |
| | Type by region | 0.59 | n.s. | | | | | | | | |

**Table II-29.—Two-way analysis of variance: percent of 1974 graduates of responding schools of nursing obtaining**
**low 400, by school type and region**

| Test | ANOVA Source | F | p | I: North Atlantic A.D. | I: North Atlantic Dip. | I: North Atlantic Bacc. | II: Midwest A.D. | II: Midwest Dip. | II: Midwest Bacc. | III: S A.D. | III: S Dip |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Medical | Type | 10.64 | .001 | 20.1 | 7.5 | 9.6 | 7.9 | 3.4 | 6.0 | 17.6 | 5.1 |
| | Region | 3.76 | .05 | | | | | | | | |
| | Type by region | 0.84 | n.s. | | | | | | | | |
| Surgical | Type | 3.58 | .05 | 14.6 | 9.1 | 12.7 | 5.6 | 2.8 | 4.9 | 12.0 | 4.5 |
| | Region | 4.01 | .01 | | | | | | | | |
| | Type by region | 0.22 | n.s. | | | | | | | | |
| Obstetrical | Type | 11.56 | .001 | 20.0 | 11.2 | 9.1 | 8.9 | 2.6 | 5.9 | 17.3 | 3.4 |
| | Region | 6.31 | .001 | | | | | | | | |
| | Type by region | 1.05 | n.s. | | | | | | | | |
| Pediatric | Type | 8.68 | .001 | 20.6 | 8.3 | 8.9 | 7.3 | 4.0 | 4.9 | 20.0 | 8.0 |
| | Region | 6.84 | .001 | | | | | | | | |
| | Type by region | 0.78 | n.s. | | | | | | | | |
| Psychiatric | Type | 4.13 | .05 | 18.9 | 11.6 | 8.9 | 9.6 | 7.4 | 5.1 | 20.1 | 12.7 |
| | Region | 7.09 | .001 | | | | | | | | |
| | Type by region | 0.42 | n.s. | | | | | | | | |

of nursing obtaining State Board Examination scores of
n

| t | III: South | | | IV: West | | |
|---|---|---|---|---|---|---|
| Bacc. | A.D. | Dip. | Bacc. | A.D. | Dip. | Bacc. |
| 20.3 | 12.4 | 27.8 | 16.2 | 27.9 | 36.5 | 11.0 |
| 17.6 | 15.7 | 27.7 | 12.4 | 34.5 | 31.7 | 9.5 |
| 20.4 | 13.5 | 25.0 | 12.4 | 27.9 | 24.4 | 11.3 |
| 22.5 | 13.4 | 22.1 | 13.3 | 30.1 | 28.5 | 13.2 |
| 29.4 | 11.7 | 16.7 | 18.1 | 26.6 | 25.3 | 25.2 |

of nursing obtaining State Board Examination scores be-

| st | III: South | | | IV: West | | |
|---|---|---|---|---|---|---|
| Bacc. | A.D. | Dip. | Bacc. | A.D. | Dip. | Bacc. |
| 6.0 | 17.6 | 5.1 | 8.3 | 11.2 | 3.4 | 10.3 |
| 4.9 | 12.0 | 4.5 | 11.5 | 11.4 | 2.4 | 10.9 |
| 5.9 | 17.3 | 3.4 | 11.5 | 10.4 | 3.8 | 9.4 |
| 4.9 | 20.0 | 8.0 | 13.4 | 10.8 | 3.2 | 7.2 |
| 5.1 | 20.1 | 12.7 | 16.7 | 10.1 | 4.4 | 6.2 |

Table II-30.—Spring 1975 graduates of participating nursing schools identified for participation in the study, by school type

| | School type | | | Total |
|---|---|---|---|---|
| | A.D. | Dip. | Bacc. | |
| A. Total number of graduates on class list | 2,888 | 2,380 | 1,635 | 6,903 |
| B. Number of graduates elected as "more promising" | 798 | 651 | 436 | 1,885 |
| C. Number of graduates selected as "most promising" | [1]411 | [2]293 | [3]198 | [4]902 |
| D. Number of nonselected graduates randomly chosen by researchers | 439 | 374 | 243 | 1,056 |

[1] Entry is 52 percent of item B.
[2] Entry is 45 percent of item B.
[3] Entry is 45 percent of item B.
[4] Entry is 48 percent of item B.

Table II-31.—Spring 1975 graduates of participating nursing schools identified for participation in the study,[1] by region

| | Region | | | | Totals |
|---|---|---|---|---|---|
| | I: North Atlantic | II: Midwest | III: South | IV: West | |
| A. Total number of graduates on class list | 1,962 | 2,129 | 1,770 | 1,042 | 6,903 |
| B. Number of graduates selected as "more promising" | 513 | 574 | 515 | 283 | 1,885 |
| C. Number of graduates selected as "most promising" | [2]233 | [3]287 | [4]276 | [5]106 | [6]902 |
| D. Number of nonselected graduates chosen randomly by researchers | 305 | 333 | 272 | 146 | 1,056 |

[1] Total N identified for participation = 2,941.
[2] Entry is 45 percent of item B.
[3] Entry is 50 percent of item B.
[4] Entry is 54 percent of item B.
[5] Entry is 37 percent of item B.
[6] Entry is 48 percent of item B.

Table II-32.—Frequency distribution of nomination criteria for "greater potential for success in nursing" cited by responding schools, by school type

| Criteria | School type | | | | | | Total | | Significant difference |
|---|---|---|---|---|---|---|---|---|---|
| | A.D. | | Dip. | | Bacc. | | | | |
| | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. | |
| Academic achievement | 53 | 80.3 | 44 | 88.0 | 26 | 76.5 | 123 | 82.0 | |
| Clinical performance | 40 | 60.6 | 31 | 62.0 | 9 | 26.5 | 80 | 53.3 | [1]$p<.001$ |
| Evaluations | 25 | 37.9 | 30 | 60.0 | 18 | 52.9 | 73 | 48.7 | |
| Personal attributes and characteristics | 25 | 37.9 | 16 | 32.0 | 8 | 23.5 | 49 | 32.7 | |
| Personal growth and development | 16 | 24.2 | 15 | 30.0 | 6 | 17.6 | 37 | 24.7 | |
| Professional development | 15 | 22.7 | 14 | 28.0 | 6 | 17.6 | 35 | 23.3 | |
| Interpersonal relations skills | 19 | 28.8 | 10 | 20.0 | 4 | 11.8 | 33 | 22.0 | |
| Leadership skills | 10 | 15.2 | 5 | 10.0 | 7 | 20.6 | 22 | 14.7 | |
| Application of scientific principles | 6 | 9.1 | 2 | 4.0 | 2 | 5.9 | 10 | 6.7 | |
| Teaching skills | 2 | 3.0 | 0 | 0.0 | 2 | 5.9 | 4 | 2.7 | |
| Accomplishment of school objectives | 2 | 3.0 | 1 | 2.0 | 1 | 2.9 | 4 | 2.7 | |

[1] Kendall's $W = 0.94$
$X^2 = 28.35$
$df = 10$
$p < .001$

**Table II-33.—Frequency distribution of nomination criteria for "greater potential for success in nursing" cited by responding schools, by region**

| | Region | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | I | | II | | III | | IV | | Total | |
| Criteria | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. |
| Academic achievement | 34 | 82.9 | 37 | 82.2 | 39 | 86.7 | 13 | 68.4 | 123 | 82.0 |
| Clinical performance | 19 | 46.3 | 22 | 48.9 | 31 | 68.9 | 8 | 42.1 | 80 | 53.3 |
| Evaluations | 20 | 48.8 | 25 | 55.6 | 18 | 40.0 | 10 | 52.6 | 73 | 48.7 |
| Personal attributes and characteristics | 11 | 26.8 | 10 | 22.2 | 20 | 44.4 | 8 | 42.1 | 49 | 32.7 |
| Personal growth and development | 10 | 24.4 | 10 | 22.2 | 12 | 26.7 | 5 | 26.3 | 37 | 24.7 |
| Professional development | 10 | 24.4 | 8 | 17.8 | 12 | 26.7 | 5 | 26.3 | 35 | 23.3 |
| Interpersonal relations skills | 8 | 19.5 | 6 | 13.3 | 12 | 26.7 | 7 | 36.8 | 33 | 22.0 |
| Leadership skills | 6 | 14.6 | 7 | 15.6 | 5 | 11.1 | 4 | 21.1 | 22 | 14.7 |
| Application of scientific principles | 1 | 2.4 | 4 | 8.9 | 4 | 8.9 | 1 | 5.3 | 10 | 6.7 |
| Teaching skills | 1 | 2.4 | 1 | 2.2 | 0 | 0.0 | 2 | 10.5 | 4 | 2.7 |
| Accomplishment of school objectives | 0 | 0.0 | 1 | 2.2 | 2 | 4.4 | 1 | 5.3 | 4 | 2.7 |

Note: Kendall's $W = 0.85$
$X^2 = 34.11$
$df = 10$
$p < .001$

**Table II-34.—Distribution of elements of definitions of "effective nursing performance," by school type**

| | School Type | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | A.D. | | Dip. | | Bacc. | | Total | | Significant difference |
| Definitions | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. | |
| Implementing nursing care | 55 | 83.3 | 46 | 92.0 | 24 | 70.6 | 125 | 83.3 | [1]$p < .05$ |
| Planning nursing care | 45 | 68.2 | 33 | 66.0 | 22 | 64.7 | 100 | 66.7 | |
| Interpersonal relations skills | 38 | 57.6 | 27 | 54.0 | 17 | 50.0 | 82 | 54.7 | |
| Evaluating nursing | 33 | 50.0 | 26 | 52.0 | 18 | 52.9 | 77 | 51.3 | |
| Application of scientific principles | 33 | 50.0 | 24 | 48.0 | 15 | 44.1 | 72 | 48.0 | |
| Professional development | 16 | 24.2 | 16 | 32.0 | 12 | 35.3 | 44 | 29.3 | |
| Teaching skills | 12 | 18.2 | 17 | 34.0 | 8 | 23.5 | 37 | 24.7 | |
| Personal attributes and characteristics | 8 | 12.1 | 10 | 20.0 | 4 | 11.8 | 22 | 14.7 | |
| Leadership skills | 7 | 10.6 | 7 | 14.0 | 7 | 20.6 | 21 | 14.0 | |
| Personal growth | 9 | 13.6 | 5 | 10.0 | 4 | 11.8 | 18 | 12.0 | |
| Accomplishment of school objectives | 2 | 3.0 | 1 | 2.0 | 3 | 8.8 | 66 | 4.0 | |
| Academic achievement | 2 | 3.0 | 0 | 0.0 | 0 | 0.0 | 2 | 1.3 | |

[1] Kendall's $W = .91$
$X^2 = 33.19$
$df = 11$
$p < .001$

**Table II-35.—Distribution of elements of definitions of "effective nursing performance," by region**

| | Region | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | I | | II | | III | | IV | | Total | |
| Definitions | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. |
| Implementing nursing care | 34 | 82.9 | 38 | 84.4 | 40 | 88.9 | 13 | 68.4 | 125 | 83.3 |
| Planning nursing care | 24 | 58.5 | 32 | 71.1 | 31 | 68.9 | 13 | 68.4 | 100 | 66.7 |
| Interpersonal relations skills | 22 | 53.7 | 25 | 55.6 | 23 | 51.1 | 12 | 63.2 | 82 | 54.7 |
| Evaluating nursing skills | 18 | 43.9 | 26 | 57.8 | 22 | 48.9 | 11 | 57.9 | 77 | 51.3 |
| Application of scientific principles | 19 | 46.3 | 18 | 40.0 | 25 | 55.6 | 10 | 52.6 | 72 | 48.0 |
| Professional development | 13 | 31.7 | 13 | 28.9 | 10 | 22.2 | 8 | 42.1 | 44 | 29.3 |
| Teaching skills | 11 | 26.8 | 14 | 31.1 | 9 | 20.0 | 3 | 15.8 | 37 | 24.7 |
| Personal attributes and characteristics | 9 | 22.0 | 6 | 13.3 | 4 | 8.9 | 3 | 15.8 | 22 | 14.7 |
| Leadership skills | 6 | 14.6 | 7 | 15.6 | 5 | 11.1 | 3 | 15.8 | 21 | 14.0 |
| Personal growth | 5 | 12.2 | 5 | 11.1 | 5 | 11.1 | 3 | 15.8 | 18 | 12.0 |
| Accomplishment of school objectives | 1 | 2.4 | 1 | 2.2 | 3 | 6.7 | 1 | 5.3 | 6 | 4.0 |
| Academic achievement | 0 | 0.0 | 0 | 0.0 | 2 | 4.4 | 0 | 0.0 | 2 | 1.3 |

Note: Kendall's $W = .96$
$X^2 = 42.33$
$df = 11$
$p < .001$

Table II-36.—Distribution of elements of definitions of "a successful nurse," by school type

| | School type | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | A.D. | | Dip. | | Bacc. | | Total | | Significant difference |
| Definitions | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. | |
| Implementing nursing care | 46 | 69.7 | 32 | 64.0 | 23 | 67.6 | 101 | 67.3 | |
| Professional development | 38 | 57.6 | 33 | 66.0 | 19 | 55.9 | 90 | 60.0 | |
| Interpersonal relations skills | 29 | 43.9 | 15 | 30.0 | 15 | 44.1 | 59 | 39.3 | |
| Personal growth | 16 | 24.2 | 26 | 52.0 | 13 | 38.2 | 55 | 36.7 | [1]$p<.01$ |
| Planning nursing care | 25 | 37.9 | 14 | 28.0 | 14 | 41.2 | 53 | 35.3 | |
| Evaluating nursing care | 25 | 37.9 | 13 | 26.0 | 13 | 38.2 | 51 | 34.0 | |
| Application of scientific principles | 25 | 37.9 | 13 | 26.0 | 11 | 32.4 | 49 | 34.0 | |
| Personal attributes and characteristics | 19 | 28.8 | 20 | 40.0 | 8 | 23.5 | 47 | 31.3 | |
| Leadership skills | 1 | 16.7 | 8 | 16.0 | 8 | 23.5 | 27 | 18.0 | |
| Teaching skills | 9 | 13.6 | 10 | 20.0 | 6 | 17.6 | 25 | 16.7 | |
| Bureaucratic loyalty | 5 | 7.6 | 4 | 8.0 | 0 | 0.0 | 9 | 6.0 | |
| Accomplishment of school objectives | 3 | 4.5 | 3 | 6.0 | 2 | 5.9 | 8 | 5.3 | |
| Academic achievement | 2 | 3.0 | 1 | 2.0 | 1 | 2.9 | 4 | 2.7 | |

[1] Kendall's $W = 0.92$
$X^2 = 33.01$
$df = 12$
$p < .001$

Table II-37.—Distribution of elements of definitions of "a successful nurse," by region

| | Region | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | I | | II | | III | | IV | | Total | |
| Definitions | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. |
| Implementing nursing care | 25 | 61.0 | 28 | 62.2 | 36 | 80.0 | 12 | 63.2 | 101 | 67.3 |
| Professional development | 22 | 53.7 | 24 | 53.3 | 33 | 73.3 | 11 | 57.9 | 90 | 60.0 |
| Interpersonal relations skills | 12 | 29.3 | 17 | 37.8 | 21 | 46.7 | 9 | 47.4 | 59 | 39.3 |
| Personal growth | 13 | 31.7 | 17 | 37.8 | 20 | 44.4 | 5 | 26.3 | 55 | 36.7 |
| Planning nursing care | 16 | 39.0 | 14 | 31.1 | 16 | 35.6 | 7 | 36.8 | 53 | 35.3 |
| Evaluating nursing care | 13 | 31.7 | 14 | 31.1 | 18 | 40.0 | 6 | 31.6 | 51 | 34.0 |
| Application of scientific principles | 9 | 22.0 | 15 | 33.3 | 17 | 37.8 | 8 | 42.1 | 49 | 32.7 |
| Personal attributes and characteristics | 14 | 34.1 | 19 | 42.2 | 9 | 20.0 | 5 | 26.3 | 47 | 31.3 |
| Leadership skills | 7 | 17.1 | 5 | 11.1 | 11 | 24.4 | 4 | 21.1 | 27 | 18.0 |
| Teaching skills | 5 | 12.2 | 9 | 20.0 | 7 | 15.6 | 4 | 21.1 | 25 | 16.7 |
| Bureaucratic loyalty | 4 | 9.8 | 0 | 0.0 | 4 | 8.9 | 1 | 5.3 | 9 | 6.0 |
| Accomplishment of school objectives | 3 | 7.3 | 2 | 4.4 | 2 | 4.4 | 1 | 5.3 | 8 | 5.3 |
| Academic achievement | 1 | 2.4 | 0 | 0.0 | 3 | 6.7 | 0 | 0.0 | 4 | 2.7 |

Note: Kendall's $W = 0.89$
$X^2 = 42.92$
$df = 12$
$p < .001$

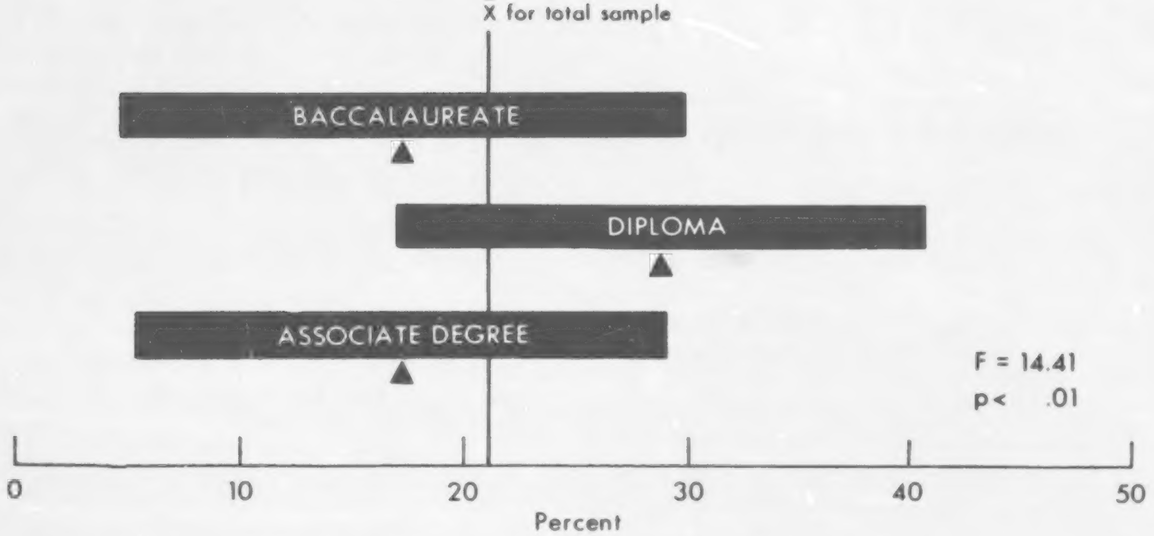

Figure 1. Percent of 1974 graduates of responding schools obtaining scores of 600 and above on State Board Examination Medical Tests (means and plus/minus one standard deviation), by school type

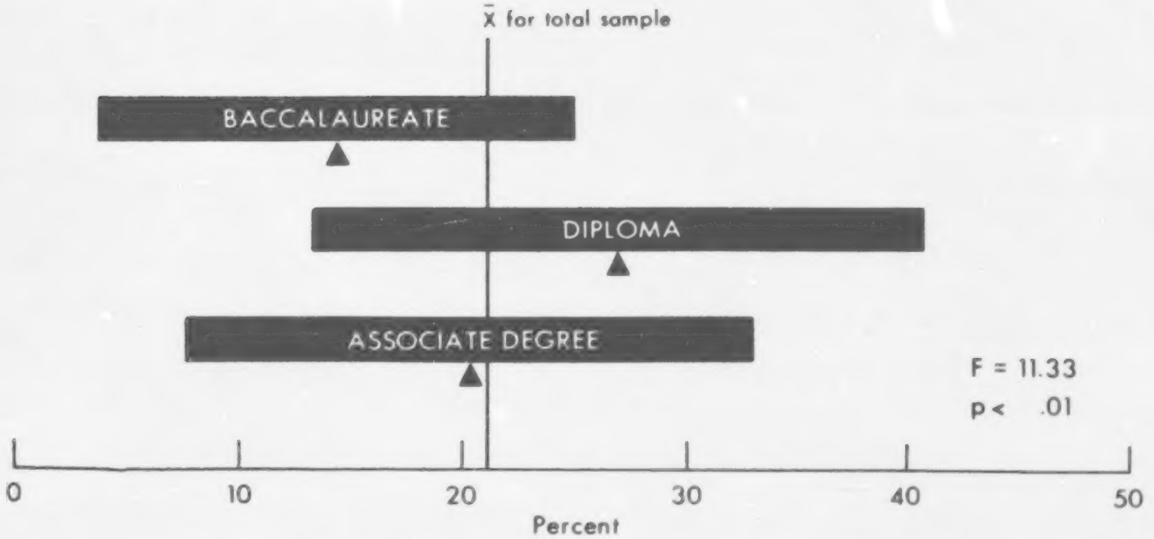

Figure 2. Percent of 1974 graduates of responding schools obtaining scores of 600 and above on State Board Examination Surgical Tests (means and plus/minus one standard deviation), by school type

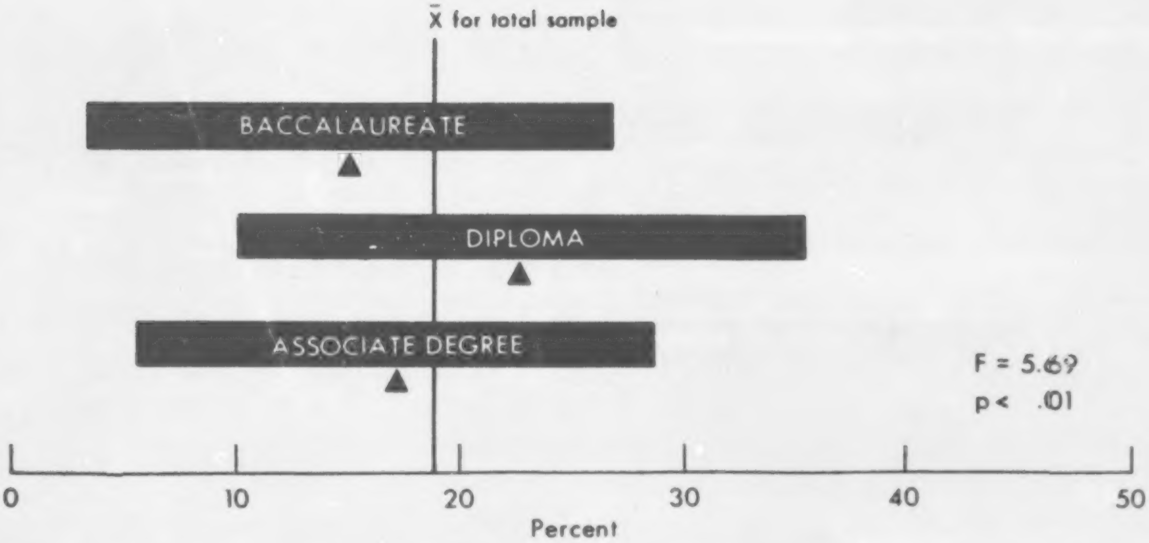

**Figure 3.** Percent of 1974 graduates of responding schools obtaining scores of 600 and above on State Board Examination Obstetrical Tests (means and plus/minus one standard deviation), by school type

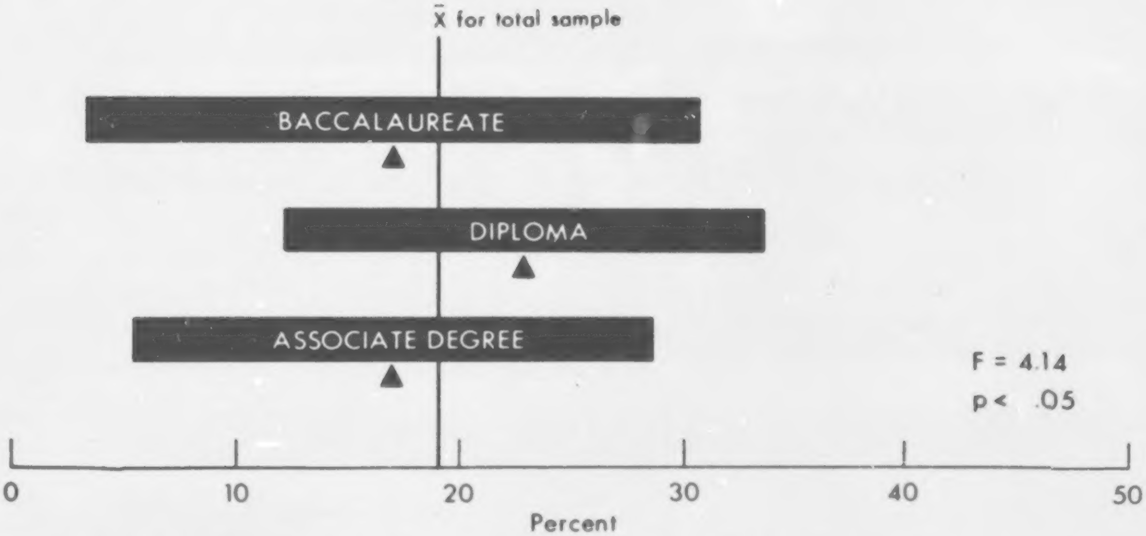

**Figure 4.** Percent of 1974 graduates of responding schools obtaining scores of 600 and above on State Board Examination Pediatric Tests (means and plus/minus one standard deviation), by school type

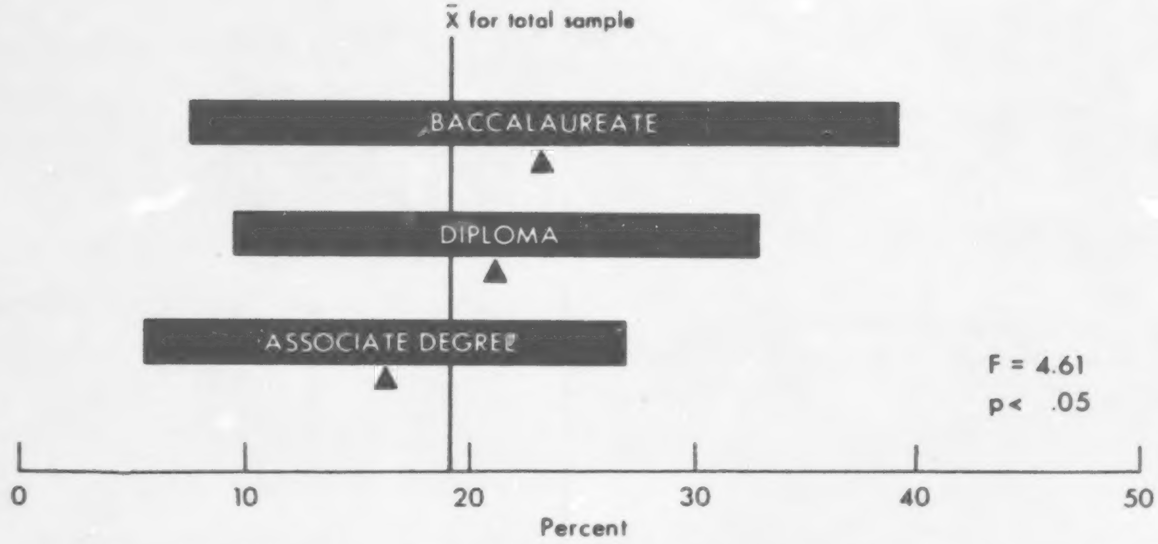

Figure 5. Percent of 1974 graduates of responding schools obtaining scores of 600 and above on State Board Examination Psychiatric Tests (means and plus/minus one standard deviation), by school type

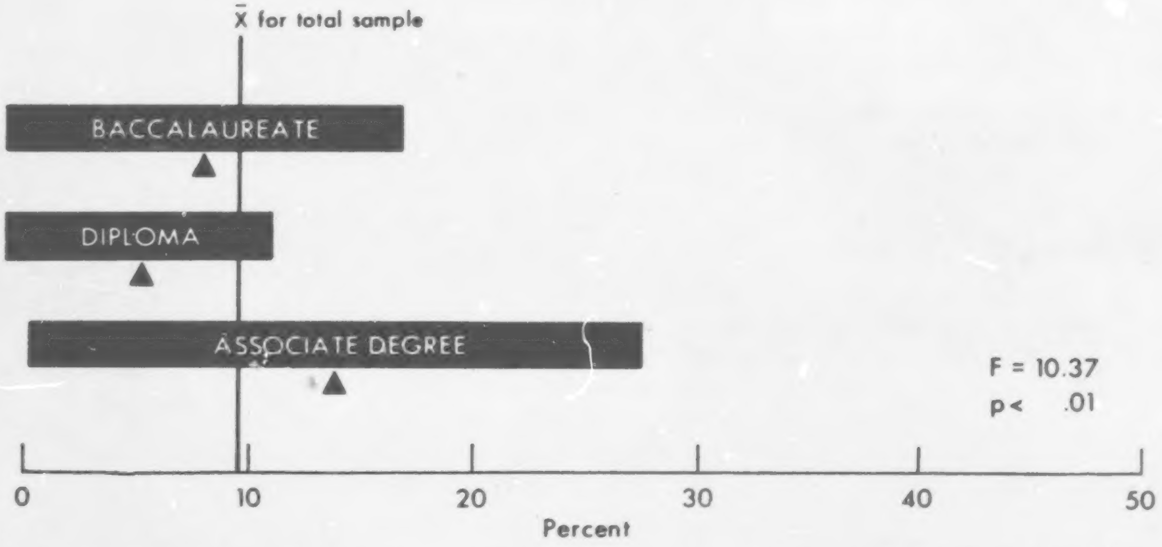

Figure 6. Percent of 1974 graduates of responding schools obtaining scores below 400 on State Board Examination Medical Tests (means and plus/minus one standard deviation), by school type

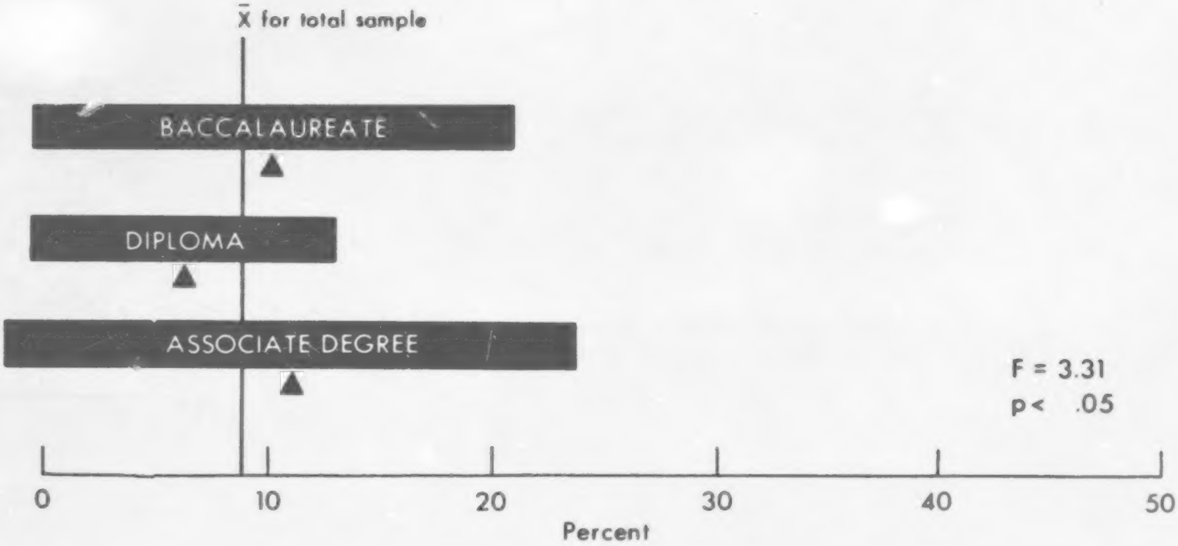

**Figure 7.** Percent of 1974 graduates of responding schools obtaining scores below 400 on State Board Examination Surgical Tests (means and plus/minus one standard deviation), by school type

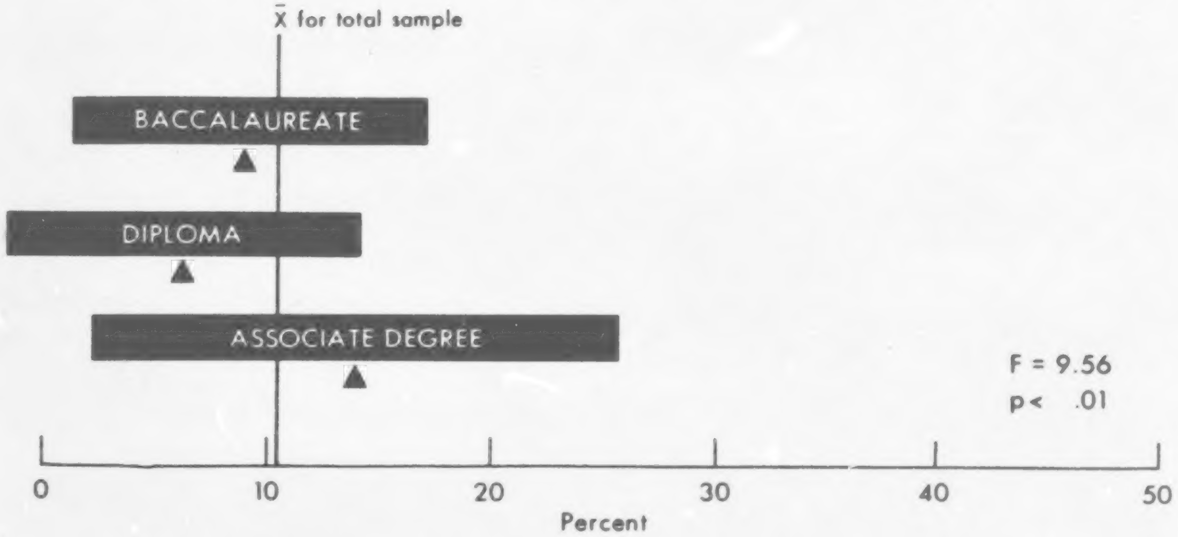

**Figure 8.** Percent of 1974 graduates of responding schools obtaining scores below 400 on State Board Examination Obstetrical Tests (means and plus/minus one standard deviation), by school type

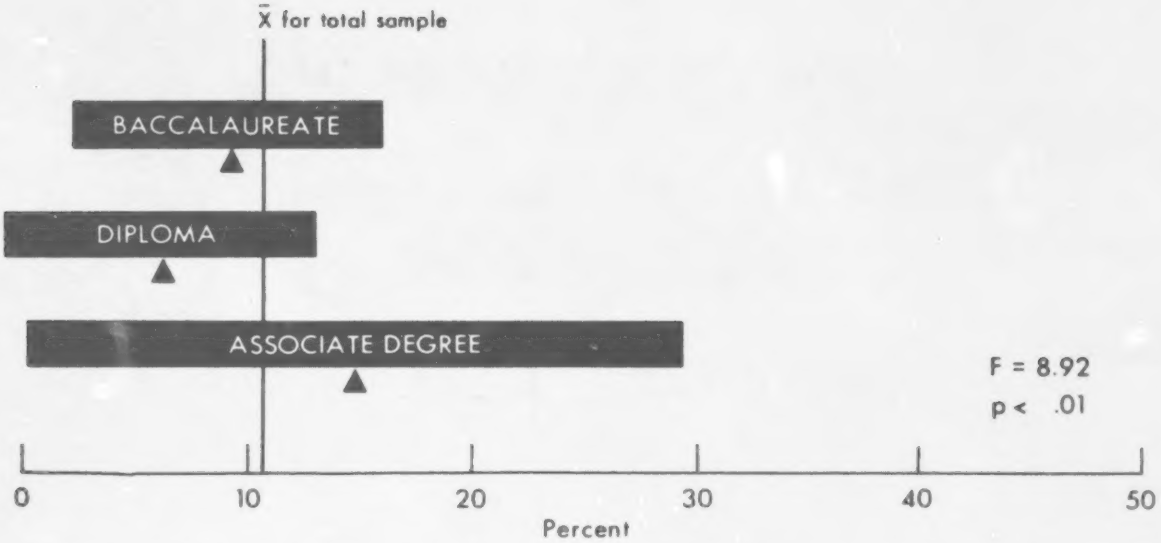

**Figure 9.** Percent of 1974 graduates of responding schools obtaining scores below 400 on State Board Examination Pediatric Tests (means and plus/minus one standard deviation), by school type

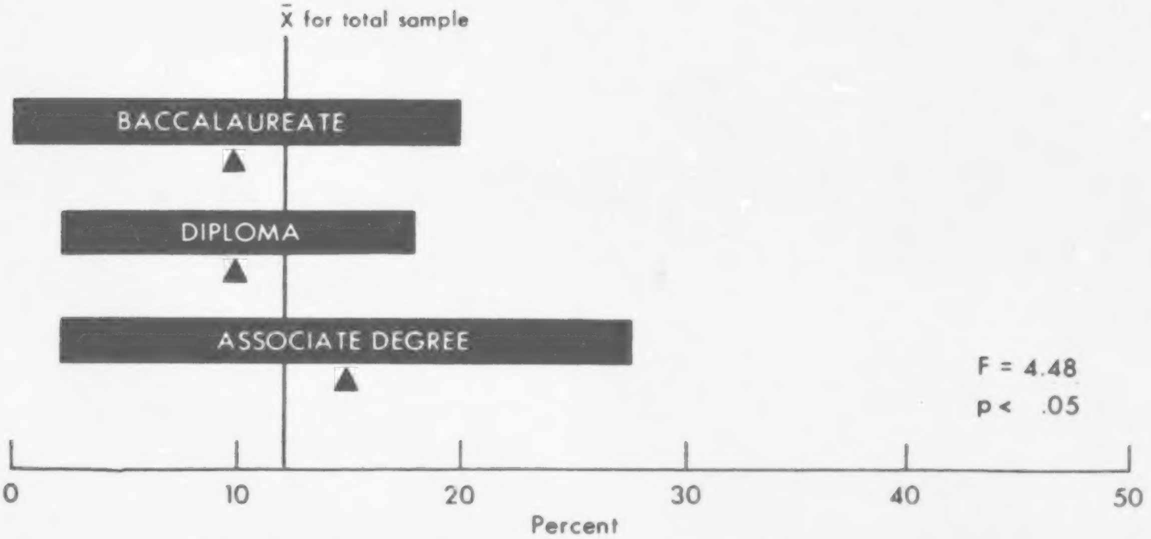

**Figure 10.** Percent of 1974 graduates of responding schools obtaining scores below 400 on State Board Examination Psychiatric Tests (means and plus/minus one standard deviation), by school type

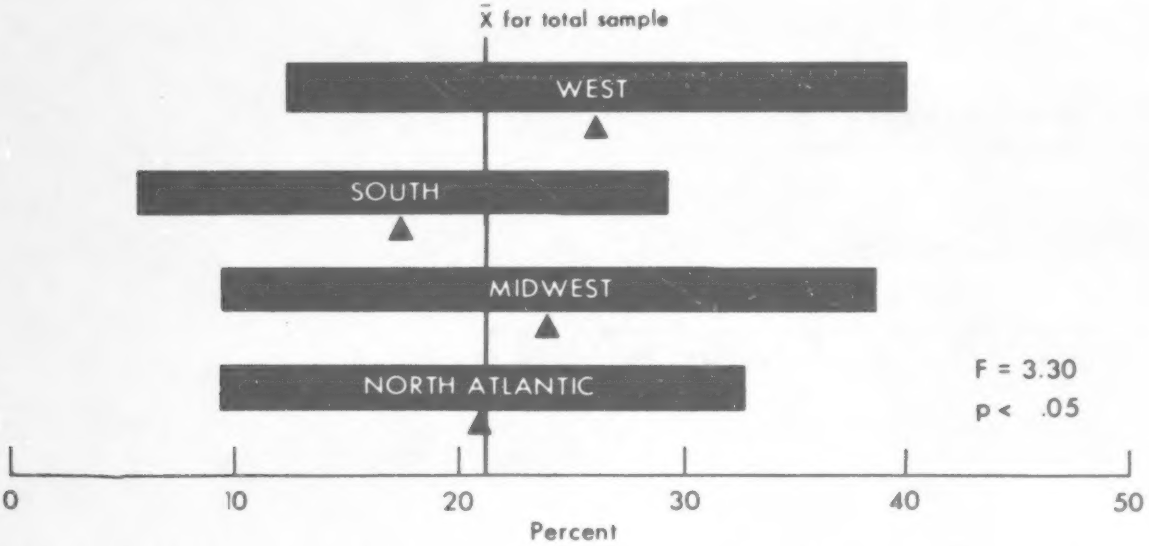

**Figure 11.** Percent of 1974 graduates of responding schools obtaining scores of 600 and above on State Board Examination Medical Tests (means and plus/minus one standard deviation), by region

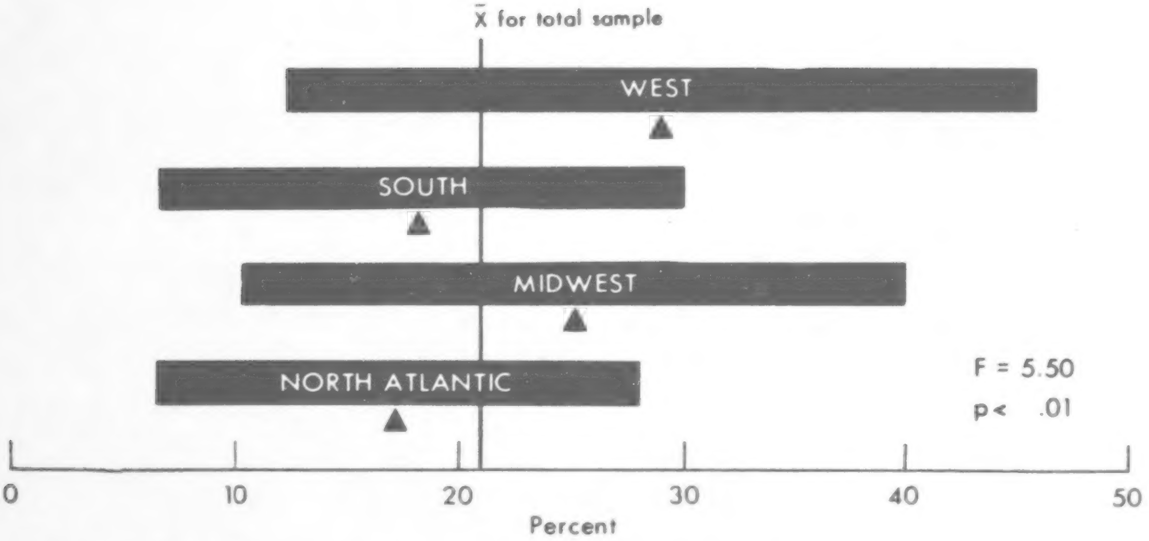

**Figure 12.** Percent of 1974 graduates of responding schools obtaining scores of 600 and above on State Examination Surgical Tests (means and plus/minus one standard deviation), by region

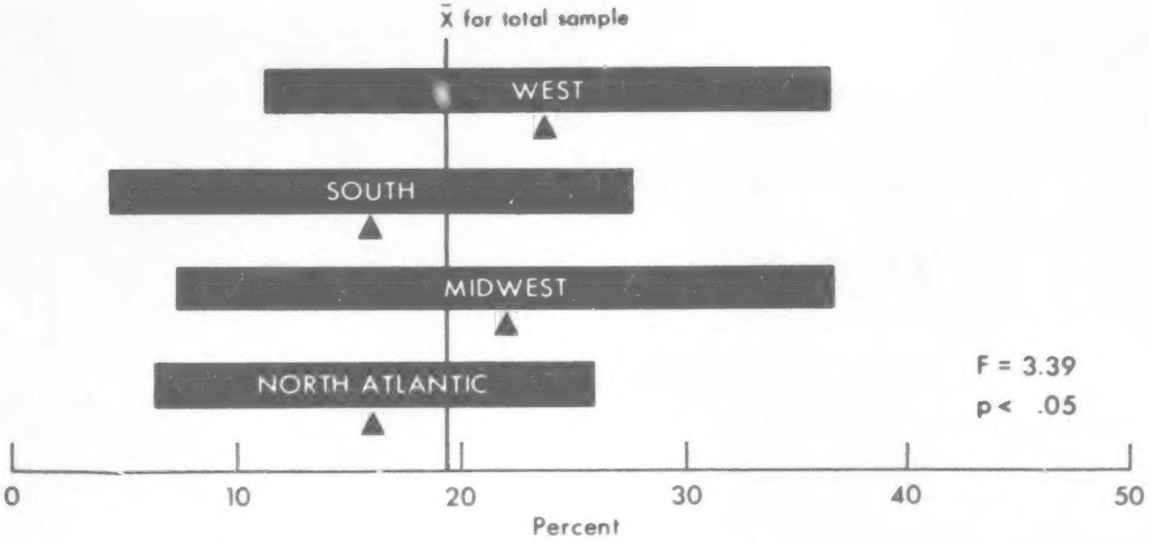

**Figure 13.** Percent of 1974 graduates of responding shools obtaining scores of 600 and above on State Board Examination Obstetrical Tests (means and plus/minus one standard deviation), by region

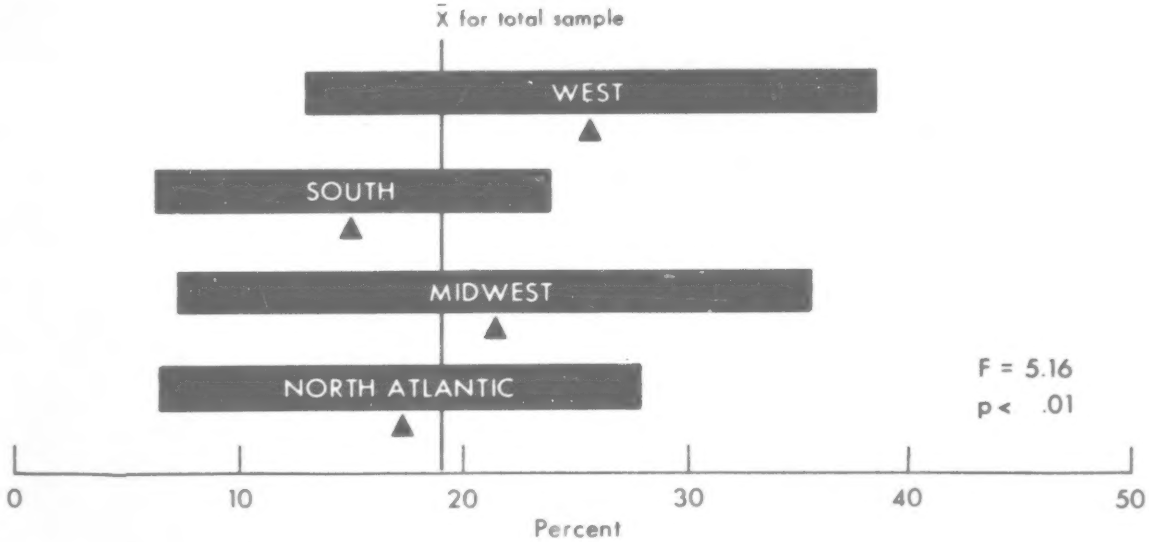

**Figure 14.** Percent of 1974 graduates of responding schools obtaining scores of 600 and above on State Board Examination Pediatric Tests (means and plus/minus one standard deviation), by region

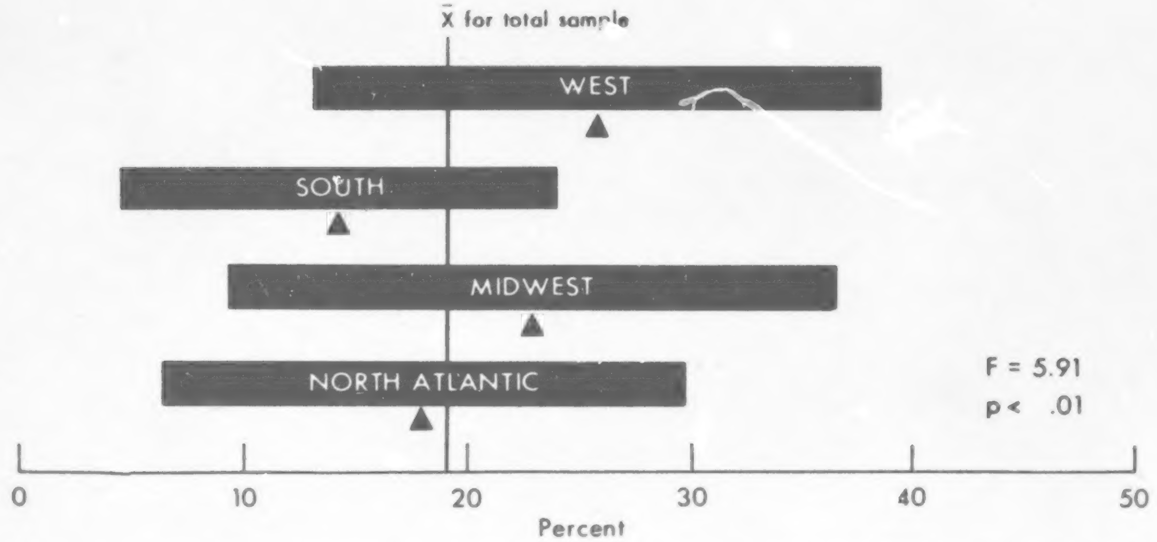

**Figure 15.** Percent of 1974 graduates of responding schools obtaining scores of 600 and above on State Board Examination Psychiatric Tests (means and plus/minus one standard deviation), by region

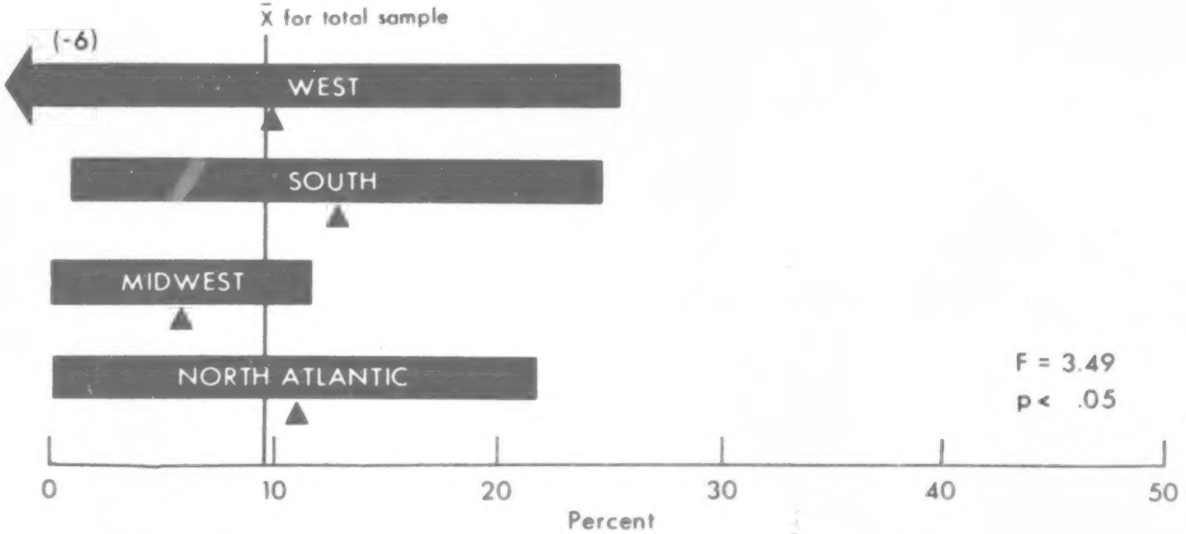

**Figure 16.** Percent of 1974 graduates of responding schools obtaining scores below 400 on State Board Examination Medical Tests (means and plus/minus one standard deviation), by region

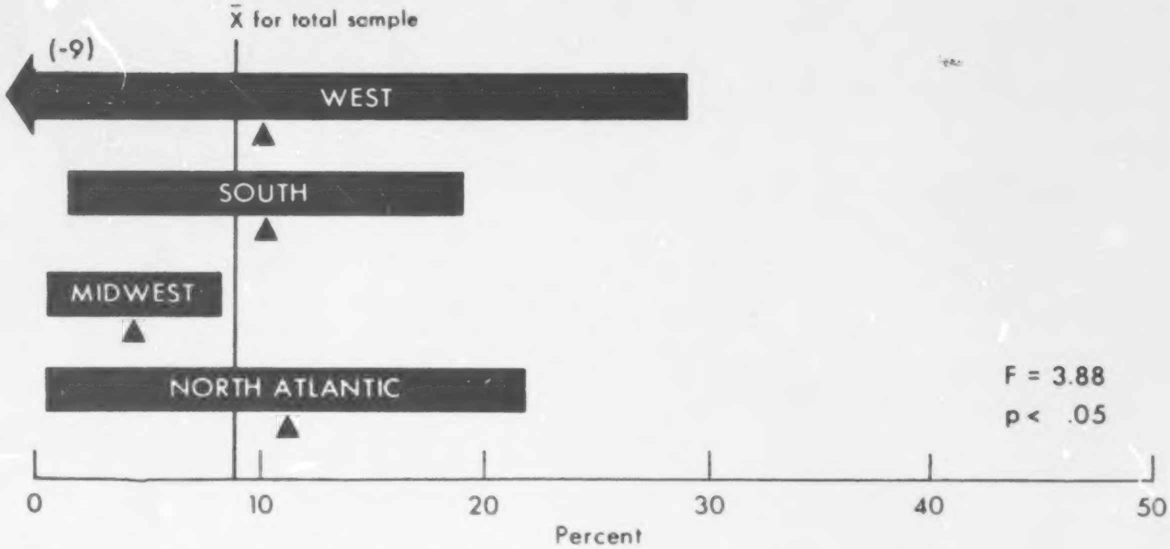

**Figure 17.** Percent of 1974 graduates of responding schools obtaining scores below 400 on State Board Examination Surgical Tests (means and plus/minus one standard deviation), by region

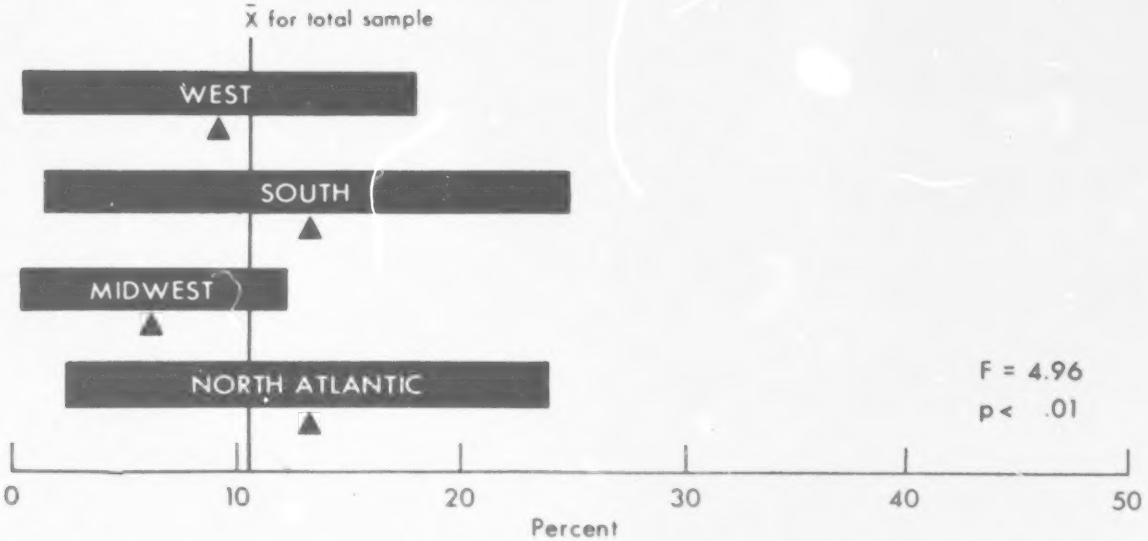

**Figure 18.** Percent of 1974 graduates of responding schools obtaining scores below 400 on State Board Examination Obstetrical Tests (means and plus/minus one standard deviation), by region

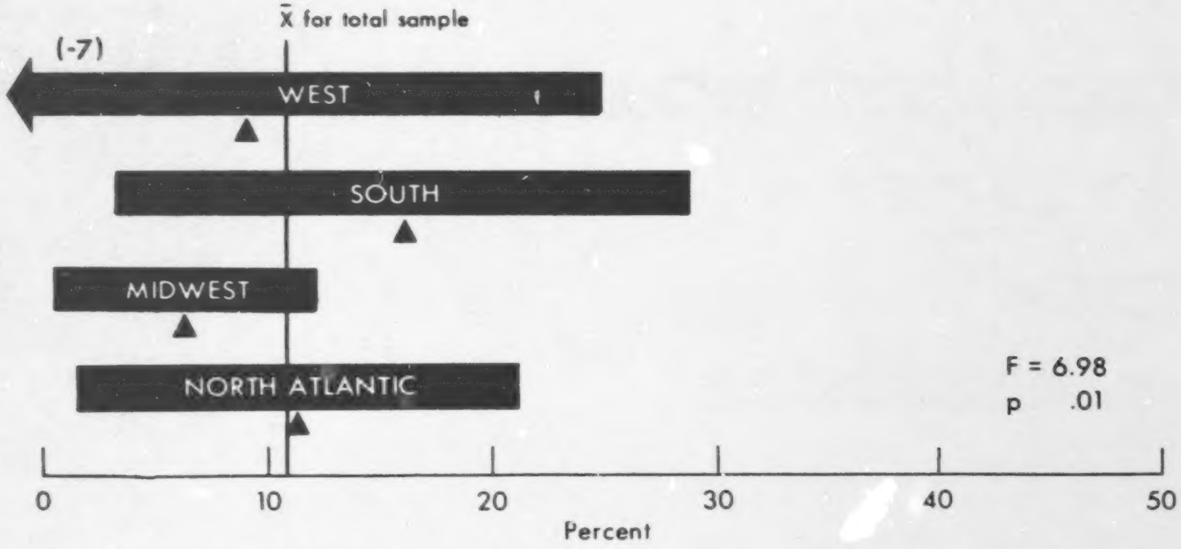

Figure 19. Percent of 1974 graduates of responding schools obtaining scores below 400 on State Board Examination Pediatric Tests (means and plus/minus one standard deviation), by region

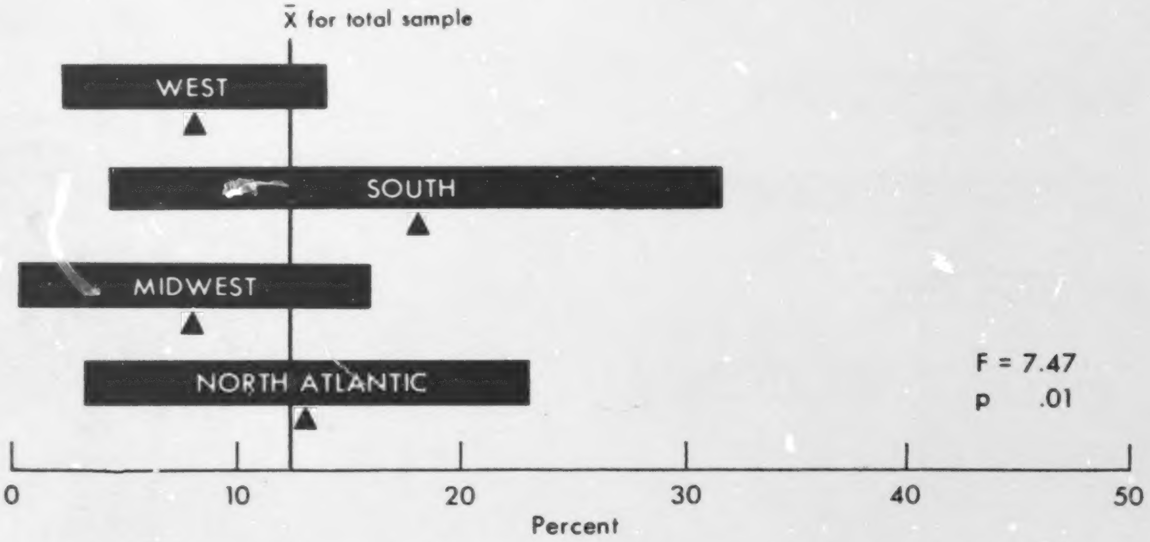

Figure 20. Percent of 1974 graduates of responding schools obtaining scores below 400 on State Board Examination Psychiatric Tests (means and plus/minus one standard deviation), by region

# Appendix II.–B

## METHODOLOGY

The Request for Proposals, which was issued by the Division of Nursing in spring 1974, specified the population to be sampled (all State-accredited basic schools of nursing in the United States), the sample size (no less than 10 percent), and the means of data collection (questionnaire). The responsibilities of the contractor, then, were to further specify and implement a suitable sampling strategy, devise and administer a questionnaire that would obtain the data required by the Division, and analyze the data so collected.

### Sampling

A stratified random sampling procedure was used to identify the nursing schools that would subsequently be asked to participate in the study. The stratification variables were three fundamental nursing school characteristics: (1) type of program—associate degree, diploma, or baccalaureate; (2) geographic region—Regions I, II, III, and IV as defined by the typology used by the National League for Nursing (see page —); and (3) source of financial support—public or private. Use of these three stratification variables produced a 24-cell matrix into which all schools of nursing in the United States could be categorized.

The 24 lists of schools that comprised the contents of each of the stratification cells were generated by the National League for Nursing, using their October 1974 survey figures. The schools in each cell that were in the phasing-out process were eliminated from the pool to be sampled. The decision to eliminate these schools was made for two reasons: (1) a school in the disorganizational throes of phasing-out was judged to have a very low probability of agreeing to participate in any study; and (2) since the overall aim of this study was to provide substantiated data upon which nursing schools could make curricular and organizational planning decisions, a school with no future to plan for was deemed an unsuitable source for data. The six schools of nursing that served as pilot schools in the questionnaire development were also eliminated from the lists of schools considered acceptable for the sampling strategy.

A random sample of 10 percent, plus two additional schools, was selected from 23 of the 24 lists of acceptable schools (one list contained only two schools in its entirety). The additional schools chosen in each cell were considered back-up schools in the event that some of the originally selected schools would choose not to participate in the study. Each school on the list was assigned a number from 0 to N − 1 (where N = the number of acceptable schools in the list). A table of random numbers, Table $D_{12}$ of *Statistical Inference for Educational Researchers* by Malcolm J. Slakter, was used to select the 10 percent sample of the schools from each cell. When 10 percent of all the acceptable schools in a cell was not a whole number, the figure was rounded to the next higher whole number. Once this step of the sampling procedure was completed, the two back-up schools were selected in the same manner as the original 10 percent sample. When the number of refusals in a cell exceeded two, additional replacements were chosen, using the same random selection procedure.

The potential respondent universe at the time of selection was 1,416 schools of nursing; of these, 122 schools were identified as closed/closing, or pilot schools, and were eliminated from the sampling pool. The result was the selection (via stratified random sampling) of 151 schools of nursing that constituted the original sample and 47 more schools that comprised the first set of back-up schools. This number met the criterion of a minimum of 10 percent sample of all basic schools of nursing.

Identification code numbers (five digits) were assigned to each sample school and to each back-up school.

## Nursing School Questionnaire—Development, Consultation, and Pilot Study

The in-house phase of questionnaire development was completed in February 1975. The subsequent 2 weeks were devoted to obtaining revision input from consultants and pilot schools. The individuals who reviewed the questionnaire and provided very useful comments were: Dr. Walter Johnson, Director, Division of Research, National League for Nursing; Dr. Marlene Kramer, Professor, School of Nursing, University of California at San Francisco; Mrs. Rose Hauer, Director, Beth Israel School of Nursing, New York City; and Dr. Barbara Redman, Professor and Chairman for Curriculum and Instruction, School of Nursing, University of Minnesota. Concurrent with the review conducted by these consultants, six schools of nursing served as pilot schools: The Ohio State University, Columbus, Ohio; Mt. Carmel Medical Center School of Nursing, Columbus, Ohio; Capital University, Columbus, Ohio; Grant Hospital School of Nursing, Columbus, Ohio; Central Ohio Technical College, Newark, Ohio; and Hocking Technical College School of Nursing, Nelsonville, Ohio.

Approximately 1 week after each pilot school had been sent the questionnaire, a project staff member interviewed the school director. These interviews yielded many valuable insights and provided excellent procedural recommendations that were incorporated into subsequent questionnaire revision and procedures. Matters related to confidentiality of data were of concern to most directors. In response to this concern, revisions were made, and assurance of the confidentiality of the data obtained from the schools was provided to respondents at three points in the study: (1) in the initial letter of introduction and explanation; (2) in the questionnaire cover letter; and (3) within the body of the questionnaire.

The questionnaire in its final form was printed on bright, attractively colored paper in a four-page folder format. A copy of the questionnaire is attached at the end of this appendix.

## Rationale for Questionnaire Content

### General

"For Office Use Only": This space was provided for entry of the preassigned school identification number by type of nursing program, type of financial support, and the geographic region. In addition, there was an area for a coded entry regarding time elapsed between questionnaire mailing and receipt of the completed questionnaire. This last item was included because it is generally accepted in mailed questionnaire survey research that early responders differ from their more recalcitrant counterparts.

Right-hand margin figures: These figures specified the data fields into which keypunch operators would enter data taken directly from the respondents' answers or those answers coded by the project staff.

### Section I: School Data

Type of program: While one stratification variable used in sample selection was program type, it was necessary to double-check each school's status, because program changes might have occurred which were not reflected in the information on which the schools were stratified. The format was designed to accommodate the responses of schools that may have had two concurrent types of programs. In the event that a school had more than one functioning program, the directions were designed to obtain the schools' answers to the remaining questions with reference to the program to which the most overall resources were being committed.

Full-time enrollment: Total enrollment figures appeared in the NLN's *State-Approved Schools of Nursing—R.N., 1974–75;* however, even the most recent NLN figures were not strictly up-to-date, and it was imperative that we have consistent, up-to-date figures for the study. Enrollment figures by sex designation was viewed as appropriate, since there has been increased interest and encouragement to attract more men into nursing.

Annual enrollment: This question was designed to provide data from which attrition rates could be calculated for each of the responding schools. It was necessary to go to such detail due to the great variability in the structure and procedures of the schools that were sampled.

Baccalaureate program entry: This information was needed to characterize baccalaureate programs accurately.

## Section II–A: Admission Criteria Used in Student Selection

The purpose of this section was the identification of the prevalence of use and the perceived importance of criteria in use for selection of applicants for admission to schools of nursing. By asking for an indication of all measures currently considered in student selection (Column A), we could identify the scope and frequency of criteria in use. By asking them to specify the *most* critical of these (Column B), we could identify the priorities that the schools actually employed in admissions—assuming, of course, that their responses reflected actual practice.

All items in this list were based on the review of recent literature (10 years) relevant to admission criteria of schools of nursing. These measures had all been reported to be in use in a significant number of schools. All the pilot school respondents considered the list appropriate and exhaustive.

Since Items 12 and 13 (ethnic and racial background and parents' educational level) could be considered "sensitive," it should be pointed out that these data are often required for admission on certain affirmative action criteria or for scholarships, grants, or loans that are awarded on the basis of special needs. In other words, this information can work *for* a disadvantaged student, not necessarily in a discriminatory fashion as some may perceive.

## Section II–B: Student Performance

This section was designed to identify the prevalence of use of measures that could be predictive of performance of nursing students while in school and the perceptions of the respondents regarding the degree to which the instruments are, indeed, predictive of various aspects of student performance. The general variable "performance" was subdivided into four areas: academic performance, clinical performance, program completion, and State Board achievement. The purpose of this division was to clarify and operationalize the meaning of performance—a term which, by itself, is elusive and particularly subject to a wide variety of interpretations by respondents. The four subcategories were intended to be clearer in meaning and easier for respondents to assess consistently. Experience with pilot schools confirmed this contention; the format also proved easy for the pilot respondents to use.

The list may appear somewhat lengthy; however, if it were not relatively exhaustive, valuable data might well have been lost. Each measure in the list was included on the basis of two criteria: (1) that it was used as a predictive measure in at least two well-conducted studies in nursing reported in the research literature in the last 10 years; and (2) that it was a standardized measure. The criterion for standardization was that the measure was described and reviewed in the most recent edition of Buros' *Mental Measurements Yearbook* or *Personality Test and Review.*

## Section II–C: Student Progression

Of utmost importance in the study of the successful performance of nursing school students and graduates was a clear definition of the means and methods whereby their progress and performance was actually evaluated while they were in school. While many studies have used one or more performance measures as dependent or independent variables related to certain aspects of achievement, none have provided a "picture" or "profile" of performance evaluation procedures as they exist in schools of nursing. This was the purpose of Section II–C.

The list of tools and procedures emerged from two sources: the review of literature related to student performance, and suggestions made by the consultants and the directors of the pilot schools who reviewed the questionnaire. The consultants and school directors also agreed that dividing student performance and progress into the areas of theory, clinical performance, and skills labs was a useful procedure, the meaning of which respondents would interpret correctly and consistently.

The format was designed to obtain data relevant to both frequency of use, as well as perceived importance in the schools' performance evaluation strategies.

Request for Evaluation Instruments: One goal of this study was to provide, through the literature review monograph and the project report, substantiated information that would ". . . aid schools of nursing in improving the assessment of student performance . . ." In service of this goal, respondents were asked to provide examples of performance evaluation instruments used in their schools that were considered particularly innovative or promising. The inclusion of such materials was optional, and assurance was provided that materials would not be reproduced or circulated without the permission of the respondent. Our intent was to select, from those contributed, the instruments of most potential utility to schools of nursing and assemble them as a supplement to this report. This supplement would hopefully be a very functional aid to schools of nursing that are developing and improving their own evaluation procedures and techniques.

## Section II–D: State Board Exam Performance

Performance scores on State Board examinations—while not in themselves considered any measure of success in nursing, or even of the success of a program preparing nurses—are vital data in a study examining nursing success in the broad context. Acceptable performance on the examinations is not an end, but a means of gaining admission to the opportunities to engage in effective nursing practice. Moreover, State Board examination scores can often reflect the relative emphasis that schools of nursing give to various nursing performance components.

The frequency distribution table of scores was chosen in preference to a request for mean scores, because simple means can actually obscure data regarding the performance of graduates at each end of the range of scores. The directors of pilot schools who filled this out did not find it particularly burdensome, since they could go right down the list of scores of graduates and mark each score in the appropriate box.

While these data were originally considered to be potentially sensitive by the project director, pilot testing indicated that the nursing school directors had no hesitation about providing the State Board performance data.

## Section III–A: Identification of Promising 1975 Graduates

This section was designed to develop the link between the second phase of the study, which focused on schools of nursing, and the third phase, which concentrated on the graduates of these schools and their supervisors. A list containing the names and permanent addresses of the entire spring 1975 graduating class was requested from each sampled school. On these lists they were requested to identify the 25 percent of their spring 1975 graduating class whom they felt had the *greater* potential for being successful in nursing practice. They were further directed to identify among this group the graduates who had the *greatest* potential for being successful in nursing. A number or percent for this latter group was not specified in order to provide the respondents maximum latitude in their choices. A "control" group was then randomly selected from each school cohort by the project staff.

The entire list of graduates was requested for two reasons: 1) ease of response on the part of the respondents, since it is much easier to simply check a series of names from an existing list than to select, then copy, them on another list; and 2) the respondents' freedom from the responsibility of identifying a control group, while simultaneously assuring us that selection of the control group was conducted consistently and in keeping with established procedures of random sample selection, because we did the sampling.

Three school directors in the pilot phase had expressed concern regarding the confidentiality of graduate name lists. Therefore, the explanatory note regarding confidentiality was included in this area of the questionnaire, as well as in the letter of introduction and the cover letter accompanying the questionnaire.

The request for permanent addresses through which the graduates could be reached 6 months after graduation is generally the most successful means of locating individuals. Nursing schools usually keep up-to-date lists of names and permanent addresses of their graduates for school purposes. The high degree of mobility of new graduates can constitute a formidable barrier—especially women who often change their names along with their addresses. However, the permanent address concept is in use by state boards of nursing with apparent success, and we were advised by NLN research personnel that the permanent address is generally the most successful means of locating individuals within the first few years of graduation—the high mobility rate notwithstanding.

### Section III–B: Nomination Criteria Used in Identifying Promising 1975 Graduates

It was intentional that no criteria for the selection of the graduates with the greater potential for being successful in nursing practice were provided to those doing the nominating. We did not wish to impose our selection criteria—either directly or indirectly—on the respondents. We wanted the respondents to define and identify the selection criteria that were actually important to them; the existence of a prestructured checklist—while quite convenient—would, in fact, establish criteria boundaries for respondents. Such boundaries would limit input and diminish the potential range of responses to the question.

### Section III–C: Definitions of "Effective Nursing Performance" and "A Successful Nurse"

The respondents were asked to provide their *operational* definitions of "effective nursing performance" and a "successful nurse." Since the first term is action-oriented and the second is role-oriented, it was anticipated that different insights could be obtained by asking for both definitions rather than assuming the terms to be synonymous. These definitions also served as operational definitions of the overall goals of the respondents' programs of nursing education, and could provide a means whereby the attainment of a school's goals in terms of the performance of their graduates could be assessed.

It would be logical to assume that these criteria would be consistent *if* nursing education theory and nursing practice were in synchrony. However, many contend that this synchrony does not exist in fact. Therefore, it is necessary to speak of predictors of success in nursing school and predictors of success in nursing practice as separate concepts unless or until empirical findings demonstrate these to be, in fact, identical.

## Questionnaire Administration

Directors and acting directors of the schools of nursing selected for the sample were initially contacted by mail to obtain their informed consent to participate in the study.

This initial introduction to the directors consisted of three parts: (1) a letter from Jessie M. Scott, Director, Division of Nursing, Bureau of Health Resources Development, Health Resources Administration, Department of Health, Education, and Welfare, which introduced the study to the school directors and emphasized the desirability of their participation; (2) an addendum prepared by the project director that provided a general description of the study, clarified the assurance of confidentiality, and described what was entailed in the directors' participation in the study; and (3) a return-addressed postcard on which each school director, by signature, indicated consent or unwillingness to participate in the study. Telephone call followups were made to those directors who did not respond within 3 weeks of the initial mailing. In some cases, the materials had not been received or had been misplaced, so duplicates were sent. On other occasions, the directors indicated they did not wish to participate in the study, so the appropriate back-up school was identified and the initial contact made with them.

When each "Statement of Informed Consent" card was received, the responding school director was sent two copies of the Nursing School Questionnaire and a stamped, return-addressed envelope. About half of the schools returned completed questionnaires within a month. Three kinds of followup measures were used to encourage questionnaire returns by the others: (1) a telephone call from a project staff member to make certain the school director had received the materials and to determine if there was any particular problem in completing the questionnaire; (2) a brief reminder note if the questionnaire had not been received within 2 to 3 weeks of the telephone call; and (3) a personal telephone call to the director of the school of nursing from the project director. This general policy of persistence and judicious use of back-up schools finally produced completed Nursing School Questionnaires from 150 schools. However, 17 of these refused to provide the names and addresses of their 1975 graduates.

## Data Analysis

Completed questionnaires were coded by the project staff, the data key-punched on IBM cards, and subsequently written on magnetic tape for computer analysis. The Ohio State University IBM #1370 computer was employed. The appropriate subroutines from the *Statistical Packages for the Social Sciences* (SPSS) were used to describe and analyze the data. These subroutines included: Frequencies, Crosstabs, Condescriptive, Breakdown, and ANOVA.

SURVEY FORM

OMB #68-S-74075
Expires: 6/30/76

PREDICTION OF SUCCESSFUL NURSING PERFORMANCE (HEW/PHS Contract No. HRS N01-NU-44127)

## NURSING SCHOOL QUESTIONNAIRE

|  |  |
|---|---|
| 0 1 _ _ _ _ _ _ _ _ _ 1 | 1-11 |
| FOR OFFICE USE ONLY |  |

### SECTION I: SCHOOL DATA

Instructions: Please respond to each item either by placing a check (✓) in the appropriate area or by providing the information as indicated.

1. Please indicate which of the following basic nursing programs leading to state licensure is offered by your school, the length of time this type of program has been in operation, and the female and male enrollment for this basic nursing program.

SAMPLE

|  | Associate Degree | Diploma | Bachelor of Science in Nursing |  |
|---|---|---|---|---|
| a) Program has been in operation: Less than 1 year |  |  |  | 12-14 |
| 1-5 years |  |  |  | 15-17 |
| 6-10 years |  |  |  | 18-20 |
| Over 10 years |  |  |  | 21-23 |
| b) Full-time enrollment: Number of females | ___ ___ ___ | ___ ___ ___ | ___ ___ ___ | 24-32 |
| Number of males | ___ ___ ___ | ___ ___ ___ | ___ ___ ___ | 33-41 |

In the event that more than one basic nursing program is in operation at your institution, please base your answers to the following questions on the program to which most overall resources are currently being committed.

02 1-2

2. Please indicate, for the class graduating in June, 1975, the enrollment figure at the following points in time. For example, a two-year program would provide data for 1973 and 1974; a three-year program would provide data for 1972, 1973, and 1974, etc.

| October 15: | 1970 | 1971 | 1972 | 1973 | 1974 |  |
|---|---|---|---|---|---|---|
| a) generic students | ___ ___ ___ | ___ ___ ___ | ___ ___ ___ | ___ ___ ___ | ___ ___ ___ | 3-17 |
| b) transfer students | ___ ___ | ___ ___ | ___ ___ | ___ ___ | ___ ___ | 18-27 |
| c) R.N. students | ___ ___ | ___ ___ | ___ ___ | ___ ___ | ___ ___ | 28-37 |

3. FOR BACCALAUREATE PROGRAMS ONLY: In what college or university year do your students typically enroll in their first nursing course?

| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |  |
|---|---|---|---|---|---|---|
| Autumn Freshman | Mid-year Freshman | Autumn Sophomore | Mid-year Sophomore | Autumn Junior | Mid-year Junior | 38-43 |

## SECTION II-A: ADMISSION CRITERIA USED IN STUDENT SELECTION

THE PURPOSES OF THIS SECTION ARE: 1) TO IDENTIFY ALL THE CRITERIA WHICH ARE CONSIDERED IN SELECTING STUDENTS FOR YOUR NURSING PROGRAM; AND 2) TO IDENTIFY THE CRITERIA WHICH ARE CONSIDERED MOST CRITICAL IN YOUR SELECTION PROCESS.

Instructions: The list below contains pre-admission measures which may be considered in student selection in nursing programs. If yours is a baccalaureate program, assume that the students have already qualified for admission to the university or college.

In Column A, please indicate with a check (✓) all measures which are currently considered in selecting students for your nursing program.

In Column B, please indicate -- from those checked in Column A -- the measures considered most critical in selecting students for your nursing program. Please check (✓) A MAXIMUM OF FOUR.

SAMPLE

| | A | B | | |
|---|---|---|---|---|
| 1. Applicant's biographical data | ______ | ______ | | 44-45 |
| 2. Personal references | ______ | ______ | | 46-47 |
| 3. Religious affiliation | ______ | ______ | | 48-49 |
| 4. Health data | ______ | ______ | | 50-51 |
| 5. Applicant's interview | ______ | ______ | | 52-53 |
| 6. Autobiographical essay | ______ | ______ | | 54-55 |
| 7. High school rank | ______ | ______ | | 56-57 |
| 8. High school grade point average | ______ | ______ | | 58-59 |
| 9. Specific high school course grades (e.g., biology, chemistry, English, etc.) | | | 03 | 1-2 |
| Please specify: ______ | ______ | ______ | __ __ | 3-6 |
| ______ | ______ | ______ | __ __ | 7-10 |
| ______ | ______ | ______ | __ __ | 11-14 |
| 10. College grade point average | ______ | ______ | | 15-16 |
| 11. Specific college course grades (e.g., chemistry, philosophy, etc.) | | | | |
| Please specify: ______ | ______ | ______ | __ __ | 17-20 |
| ______ | ______ | ______ | __ __ | 21-24 |
| ______ | ______ | ______ | __ __ | 25-28 |
| 12. Ethnic and racial background | ______ | ______ | | 29-30 |
| 13. Parents' educational level | ______ | ______ | | 31-32 |
| 14. American College Testing Program (ACT) | ______ | ______ | | 33-34 |
| 15. Minnesota Multiphasic Personality Inventory (MMPI) | ______ | ______ | | 35-36 |
| 16. National League for Nursing Tests | ______ | ______ | | 37-38 |
| 17. Scholastic Aptitude Test (SAT) | ______ | ______ | | 39-40 |
| 18. Alternative predictive measures which your school considers in student selection. Please list: | | | | |
| ______ | ______ | ______ | __ __ | 41-44 |
| ______ | ______ | ______ | __ __ | 45-48 |
| ______ | ______ | ______ | __ __ | 49-52 |
| ______ | ______ | ______ | __ __ | 53-56 |

## SECTION II B: STUDENT PERFORMANCE

THE PURPOSES OF THIS SECTION ARE: 1) TO IDENTIFY TESTS WHICH ARE ADMINISTERED TO YOUR STUDENTS PRIOR TO ADMISSION AND DURING THEIR ACADEMIC CAREER: AND 2) TO INDICATE THE PREDICTIVE CAPABILITIES OF THESE TESTS IN RELATION TO VARIOUS ASPECTS OF STUDENT PERFORMANCE.

Instructions:

In Column A, please check (✓) the criteria which are currently used in your nursing program as predictive measures of performance.

In Column B, based on the experiences in your school, please indicate the predictive value of each measure checked in each of four performance areas: academic performance, clinical performance, program completion, and state board achievement. Use the following rating scale:

3 - Great significance in predicting this performance
2 - Moderate significance in predicting this performance
1 - Little significance in predicting this performance
0 - No significance in predicting this performance
X - Currently under study; not able to evaluate at this time

NOTE: If you wish to qualify your answer -- e.g., may apply to generic students but not to R.N. students -- please do so.

SAMPLE

| | A | B: Academic Performance | B: Clinical Performance | B: Program Completion | B: State Board Achievement | | |
|---|---|---|---|---|---|---|---|
| EXAMPLE: | | | | | | | |
| American College Testing Program .................... (ACT) | ✓ | 3 | 1 | 1 | 3 | | |
| Scholastic Aptitude Test........ (SAT) | | | | | | | |
| Minnesota Multiphasic Personality Inventory...............(MMPI) | ✓ | 0 | 2 | X | X | 04 | 1-2 |
| PLEASE START HERE | | | | | | | |
| 1. Standardized Tests | | | | | | | |
| a) Adjectives Check List ...................(ACL) | | | | | | | 3-6 |
| b) American College Testing Program ..............................(ACT) | | | | | | | 7-10 |
| c) Allport-Vernon-Lindzey Study of Values .........................(AVL) | | | | | | | 11-14 |
| d) College Qualification Tests ............. ...................(CQT) | | | | | | | 15-18 |
| e) Edwards Personal Preference Schedule .........................(EPPS) | | | | | | | 19-22 |
| f) IPAT Self Analysis Form ................(IPAT) | | | | | | | 23-26 |
| g) Kuder Preference Record Vocational...........................(KPR-V) | | | | | | | 27-30 |

(LIST IS CONTINUED ON NEXT PAGE)

SAMPLE

| | A | B | | | | |
|---|---|---|---|---|---|---|
| | | Academic Performance | Clinical Performance | Program Completion | State Board Achievement | |
| h) Lorge-Thorndike Intelligence Tests, College Edition ................ (LTIT-H) | | | | | | 31-34 |
| i) Minnesota Multiphasic Personality Inventory .................... (MMPI) | | | | | | 35-38 |
| j) Nurse Attitudes Inventory ................ (NAI) | | | | | | 39-42 |
| k) NLN Achievement Tests for Schools Preparing Registered Nurses .................... | | | | | | 43-46 |
| l) Omnibus Personality Inventory ................................ (OPI) | | | | | | 47-50 |
| m) Personal Orientation Inventory ................................ (POI) | | | | | | 51-54 |
| n) Scholastic Aptitude Test ................ (SAT) | | | | | | 55-58 |
| | | | | | | 05 1-2 |
| o) Sixteen Personality Factor Questionnaire ........................ (16 PF) | | | | | | 3-6 |
| p) Strong Vocational Interest Blank for Women .................... (SVIB-W) | | | | | | 7-10 |
| q) Thurstone Test of Mental Alertness ........................... (TTMA) | | | | | | 11-14 |
| r) Wechsler Adult Intelligence Scale ................................ (WAIS) | | | | | | 15-18 |
| s) Watson-Glaser Critical Thinking Appraisal .................. (WGCTA) | | | | | | 19-22 |
| 2. Alternative measures used in your program which you feel are promising.* Please specify: | | | | | | |
| ______________________ | | | | | | 23-28 |
| ______________________ | | | | | | 29-34 |
| ______________________ | | | | | | 35-40 |

*We would appreciate being sent a copy of these.

## SECTION II-C: STUDENT PROGRESSION

THE PURPOSE OF THIS SECTION IS TO IDENTIFY HOW THE PERFORMANCE AND PROGRESS OF STUDENTS IN YOUR NURSING PROGRAM ARE EVALUATED.

Instructions: Student progress in a nursing program is evaluated in a variety of ways. Listed below are some evaluation tools and procedures which are commonly used. Please indicate with a check(✓) in the appropriate column how important each of these evaluation techniques is in assessing the performance and progression of students in your nursing program.

SAMPLE

| | Very Important | Moderately Important | Somewhat Important | Not Important | Not Used | | |
|---|---|---|---|---|---|---|---|
| 1. Theory | | | | | | 06 | 1-2 |
| a) Teacher-made examinations | | | | | | | 3-7 |
| b) Term papers | | | | | | | 8-12 |
| c) Oral presentations/ examinations | | | | | | | 13-17 |
| d) NLN Achievement Tests | | | | | | | 18-22 |
| e) Senior Projects | | | | | | | 23-27 |
| f) Self-instructional materials (e.g., computer assisted instruction, self-instructional audio/ visual packages) | | | | | | | 28-32 |
| g) Other (Please specify) | | | | | | | |
| ______ | | | | | | __ __ | 33-39 |
| ______ | | | | | | __ __ | 40-46 |
| ______ | | | | | | __ __ | 47-53 |
| ______ | | | | | | __ __ | 54-60 |
| 2. Clinical Performance | | | | | | 07 | 1-2 |
| a) Technical skills ratings | | | | | | | 3-7 |
| b) Teaching skills ratings | | | | | | | 8-1 |
| c) Interpersonal skills ratings | | | | | | | 13-17 |
| d) Assessment skills ratings | | | | | | | 18-22 |
| e) Problem-solving skills ratings | | | | | | | 23-27 |
| f) Leadership skills ratings | | | | | | | 28-32 |
| g) Self-instructional materials | | | | | | | 33-37 |
| h) Other (Please specify) | | | | | | | |
| ______ | | | | | | __ __ | 38-44 |
| ______ | | | | | | __ __ | 45-51 |
| ______ | | | | | | __ __ | 52-58 |
| ______ | | | | | | __ __ | 59-65 |

(CONTINUED ON NEXT PAGE)

| | Very Important | Moderately Important | Somewhat Important | Not Important | Not Used | | |
|---|---|---|---|---|---|---|---|
| **3. Skills Lab** | | | | | | 08 | 1-2 |
| a) Teacher-made examinations | ___ | ___ | ___ | ___ | ___ | | 3-7 |
| b) Performance ratings | ___ | ___ | ___ | ___ | ___ | | 8-12 |
| c) Self-instructional materials | ___ | ___ | ___ | ___ | ___ | | 13-17 |
| d) Other (Please specify) | | | | | | | |
| ________________ | ___ | ___ | ___ | ___ | ___ | __ __ | 18-24 |
| ________________ | ___ | ___ | ___ | ___ | ___ | __ __ | 25-31 |
| ________________ | ___ | ___ | ___ | ___ | ___ | __ __ | 32-38 |
| **4. Other (Please specify)** | | | | | | | |
| ________________ | ___ | ___ | ___ | ___ | ___ | __ __ | 39-45 |
| ________________ | ___ | ___ | ___ | ___ | ___ | __ __ | 46-52 |
| ________________ | ___ | ___ | ___ | ___ | ___ | __ __ | 53-59 |

SAMPLE

PLEASE NOTE: One of the objectives of this study is to identify and collect examples of innovative or promising performance evaluation instruments. Of particular interest are those used by schools of nursing to assess student performance in the clinical areas. We would appreciate it very much if you would include with your completed questionnaire any performance evaluation instruments currently used in your school which you feel are either innovative or promising. These may be either standardized or instructor-developed by your own faculty. Please identify the group of nursing students with whom each instrument is most typically used. These materials will not be reproduced or circulated without your permission.

## SECTION II-D: STATE BOARD TEST POOL EXAMINATION PERFORMANCE

09 1-2

1. How many students from your spring 1974 graduating class took State Board examinations in the summer of 1974?

__ __ __ 3-5

2. Please indicate the number of these students from the 1974 graduating class who obtained the following scores on the State Board Test Pool Examinations.

| | Medical | Surgical | Obstetrical | Pediatric | Psychiatric | | |
|---|---|---|---|---|---|---|---|
| 700 and above | __ __ __ | __ __ __ | __ __ __ | __ __ __ | __ __ __ | | 6-20 |
| 600 - 699 | __ __ __ | __ __ __ | __ __ __ | __ __ __ | __ __ __ | | 21-35 |
| 500 - 599 | __ __ __ | __ __ __ | __ __ __ | __ __ __ | __ __ __ | | 36-50 |
| | | | | | | 10 | 1-2 |
| 400 - 499 | __ __ __ | __ __ __ | __ __ __ | __ __ __ | __ __ __ | | 3-17 |
| 350 - 399 | __ __ __ | __ __ __ | __ __ __ | __ __ __ | __ __ __ | | 18-32 |
| 349 and below | __ __ __ | __ __ __ | __ __ __ | __ __ __ | __ __ __ | | 33-47 |

## SECTION III-A: IDENTIFICATION OF PROMISING 1975 GRADUATES

THE PURPOSE OF THIS SECTION IS TO IDENTIFY A COHORT OF JUNE 1975 GRADUATES IDENTIFIED BY YOUR NURSING SCHOOL FACULTY AS HAVING THE MOST POTENTIAL FOR BEING SUCCESSFUL IN NURSING PRACTICE. THIS COHORT OF STUDENTS WILL BE REQUESTED TO PARTICIPATE IN SUBSEQUENT PHASES OF THIS STUDY. WE ASK THAT YOU ASSIST US IN THIS IDENTIFICATION IN THE FOLLOWING MANNER:

Instructions:

1. Please enclose with the questionnaire a list containing the names and permanent addresses of the entire June 1975 graduating class. 11 1-2
2. On this list, place a check (✓) by the names of those students presently considered as having the greater potential for being successful in nursing practice. The number of students selected should be equal to 25% of the total number of students graduating in the June, 1975, class. _ _ _ 3-5
3. Of those student's names you have checked, please identify those whom you consider to have the greatest potential for being successful in nursing practice by encircling the check (✓). Choose as many or as few as you wish. _ _ _ 6-8

THIS LIST OF NAMES WILL BE USED FOR NO PURPOSE OTHER THAN STATED IN THIS STUDY. ALL NAMES -- PARTICIPANTS AND NON-PARTICIPANTS ALIKE -- WILL BE HELD IN STRICT CONFIDENCE. _ _ _ 9-11

## SECTION III-B: NOMINATION CRITERIA

SAMPLE

Instructions: Please list the criteria used in making the above selections from among the graduating class. For example: peer evaluations, grades, honors, etc.

## SECTION III-C: DEFINITIONS

THE PURPOSE OF THIS SECTION IS TO DEVELOP OPERATIONAL DEFINITIONS OF TWO VERY IMPORTANT TERMS: "EFFECTIVE NURSING PERFORMANCE" AND "A SUCCESSFUL NURSE." THESE OPERATIONAL DEFINITIONS WILL BE CONTENT ANALYZED AND EMPLOYED IN THE DEVELOPMENT OF NURSING PERFORMANCE RATINGS TO BE USED IN THE SUBSEQUENT PHASES OF THE STUDY.

12 1-2

Instructions: Please state your operational definitions of the two concepts below. Please make your definitions as complete and behaviorally-stated as possible.

1. Operational definition of EFFECTIVE NURSING PERFORMANCE:

2. Operational definition of A SUCCESSFUL NURSE:

SAMPLE

THANK YOU FOR CONTRIBUTING TO THIS STUDY BY COMPLETING THE QUESTIONNAIRE.

PATRICIA M. SCHWIRIAN, PH.D.
ASSOCIATE PROFESSOR
SCHOOL OF NURSING
THE OHIO STATE UNIVERSITY
1585 NEIL AVENUE
COLUMBUS, OHIO 43210

PLEASE REMEMBER -- YOUR IDENTITY AND THAT OF YOUR SCHOOL WILL BE HELD IN STRICTEST CONFIDENCE. IN THE EVENT THAT WE NEED TO CONTACT YOU REGARDING THE QUESTIONNAIRE, PLEASE GIVE US YOUR NAME AND POSITION IF EITHER DIFFERS FROM THE INFORMATION ON THE ADDRESS LABEL ON PAGE 1 OF THE QUESTIONNAIRE.

NAME

POSITION

## Appendix II.–C

# DESCRIPTIONS OF EVALUATION INSTRUMENTS USED BY RESPONDING SCHOOLS OF NURSING

### Associate Degree Programs

BEAUFORT TECHNICAL INSTITUTE (P. O. Box 1069, Washington, North Carolina 27889)

*Clinical Evaluation—Medical-Surgical Nursing I:*. a 2-page rating scale to assess the student's performance of 20 nursing behaviors using E (Excellent), S (Satisfactory), or U (Unsatisfactory) ratings, with corresponding point values for each rating and provision for supporting comments by faculty and student.

*Clinical Evaluation—Medical-Surgical Nursing II:* a 2-page rating scale to assess the student's performance of 13 nursing behaviors using E (Excellent), S (Satisfactory), or U (Unsatisfactory) ratings, with corresponding number and letter grades for each rating and provision for supporting comments by faculty and student.

FAYETTEVILLE TECHNICAL INSTITUTE (P.O. Box 5236, Fayetteville, North Carolina 28303)

*Weekly Clinical Evaluation—First Year:* a 2-page rating scale to assess the student's performance of 76 behaviors and nursing process components using ratings of 4 (Excellent), 3 (Good), 2 (Satisfactory), 1 (Needs Improvement), and 0 (Unsatisfactory). The weighted score allotted to each specific area is designated. Space is provided for including the demographics of the patient for whom the student was caring.

*Clinical Evaluation Information Sheet:* a 5-page student handout detailing the 76 specific behaviors and nursing process components to be considered in the weekly clinical evaluation tool. An explanation of the procedure used for the total grade is also included.

*Weekly Clinical Evaluation—Second Year:* a 2-page rating scale to assess the student's performance of 67 behaviors and nursing process components using ratings of 4 (Excellent), 3 (Good), 2 (Satisfactory), 1 (Needs Improvement), or 0 (Unsatisfactory). Space is provided for including specific patient demographics and faculty comments.

*Clinical Evaluation Guide:* a 5-page student handout detailing the specific behaviors and nursing process components to be considered in the weekly clinical evaluation. An explanation of the procedure used for the total grade is also included.

MONTGOMERY COUNTY COMMUNITY COLLEGE (340 DeKalb Pike, Blue Bell, Pennsylvania 19422)

*Performance Record:* a 1-page rating scale to assess the student's performance of 19 behaviors using ratings of exceptional, good, satisfactory, or unsatisfactory, with provision for faculty and student comments. In addition, there is a guide for using the nursing performance record which includes a more detailed description of the behaviors to be evaluated.

*Performance Record—Evaluation of Clinical Performance:* a 3-page form for faculty and/or head nurse narrative comments regarding 40 descriptive behaviors used to evaluate the student's clinical performance.

PRESTONSBURG COMMUNITY COLLEGE
(Prestonsburg, Kentucky 41653)

*Evaluation for Fundamentals I:* a 1-page rating scale to assess the student's performance of 27 basic nursing procedures as satisfactory or unsatisfactory, with provision for narrative statements concerning 6 beginning nursing process elements.

*Evaluation for Fundamentals II:* a 2-page rating scale to assess the student's performance of 27 basic nursing procedures using satisfactory or unsatisfactory ratings. There is provision for narrative comments concerning six nursing process components. This evaluation is used for two consecutive rotations with the addition of a unit on pharmacology being added to the tool for rotation number 2. The tool is used two times as student progresses and improves upon the skills listed.

*Evaluation for Fundamentals III:* a 1-page rating scale to assess the student's knowledge and beginning skills associated with 14 complex nursing procedures using satisfactory or unsatisfactory ratings, with provision for supporting comments by faculty members.

*Evaluation #1—Family Health Nursing:* a 2-page rating scale to assess the student's performance of 44 descriptive behaviors displayed in 7 areas of an obstetric unit using satisfactory or unsatisfactory ratings, with provision for supporting comments by faculty members.

*Evaluation #2—Family Health Nursing:* a 2-page rating scale to assess the student's performance of 24 descriptive behaviors associated with 2 pediatric course objectives, 5 developmental age levels and family behaviors, using satisfactory and unsatisfactory ratings, with provision for supporting comments by faculty members.

*Clinical Evaluation/Mental-Physical Illness* (first semester) : a 1-page checklist to assess the student's performance of 26 descriptive behaviors for nursing course objectives, with provision for supporting comments by faculty and student.

*Clinical Evaluation/Mental-Physical Illness* (second semester) : same as first semester concept includes three to four items dealing with organization and leadership behaviors.

*Clinical Evaluation/Mental Health Nursing:* a 2-page checklist to assess the student's performance of 39 descriptive behaviors for 12 mental health nursing course objectives.

PURDUE UNIVERSITY—CALUMET CAMPUS (2233 171st Street, Hammond, Indiana 46323)

*NT 115 (Nursing I—Introduction to Nursing):* a 3-page rating scale to assess the performance of 16 descriptive behaviors involved in the assessment phase of the nursing process in long-term illness, using the designations of A (Objective was achieved), N (Objective was not achieved), X (Objective was in the process of being achieved), and Z (Objective did not apply to this experience). There is also provision made for evaluating the personal attributes of the student.

*Nursing 116 (Medical-Surgical Nursing of Adults and Children—Nursing III):* a 3-page rating scale to assess the performance of 33 descriptive behaviors focused on applying the nursing process to the care of surgical patients using S or U ratings and provision for faculty and student comments. Included is a guide for the use of the clinical evaluation form. There is also provision made for evaluating the personal attributes of the student.

*Nursing 225 (Maternal-Child Health Nursing):* a 4-page rating scale to assess the performance of 15 descriptive behaviors involved in the application of the nursing process in caring for the emerging family group during the expectant, intrapartal, and postpartal phases and during childhood, using the designations of A (Objective was achieved), N (Objective was not achieved), X (Objective was in the process of being achieved), Z (Objective did not apply to this experience) in conjunction with the values of excellent, good, average, or unsatisfactory, and corresponding number grades. Included is a guide for use of the clinical evaluation and a grading index.

*NT 240 (Psychiatric Nursing):* a 4-page rating scale to assess 38 behavioral expectations of a psychiatric nursing course using the designations of A (Objective was achieved), N (Objective was not achieved), X (Objective was in the process of being achieved), Z (Objective did not apply to this experience) in conjunction with values of excellent, good, average, or unsatisfactory, and corresponding number grades. Included is a guide for use of the clinical evaluation and grading index, and a 2-page clinical self-evaluation tool to assess 10 descriptive behaviors.

*Nursing 224 (Surgical Nursing of Adults and Children—Clinical Evaluation Nursing III):* a 20-page rating scale to assess the performance of descriptive behaviors (focused on the use of nursing process components), using the ratings of 3 (High level of achievement), 2 (Average level of achievement), 1 Failure to reach minimal achievement), with corresponding point values and conversions to letter grades with provision for faculty comments and student self-evaluation. There are five separate units for evaluation, covering patients with problems of: 1) fluid and electrolyte balance, 2) oxygenation, 3) nutrition, 4) endocrine dysfunction, and 5) physical activity. There is provision for faculty comments and student self-evaluation for each unit and a summary sheet for the final composite clinical grade. Included is a guide for the use of the clinical evaluation form and instructions for computing the number and letter grade.

ST. MARY'S COLLEGE OF O'FALLON (200 North Main, O'Fallon, Missouri 63366)

*Freshman Clinical Laboratory Experiences #1–10:* a 13-page form rating the student's performance of specific behaviors within each of 4 nursing process components for 10 individual patient-centered experiences (e.g., nursing care, diet, medication, elimination, etc.), using S (Satisfactory) or U (Unsatisfactory) ratings. There is provision for anecdotal notes and specific dates and patient information to be provided by both the faculty and student. Included is information for the student explaining the nursing process and its application to their clinical evaluation, as well as principles for faculty to follow in the evaluation procedure.

*Clinical Evaluation (Sophomores):* a 2-page form rating the student's performance of 10 nursing behaviors using the categories of Very Good (+), Satisfactory (✓), Unsatisfactory (−), or See Anecdotal Note (N), with space provided for rating the student on 11 different dates. Included is an anecdotal note page for narrative comments.

*Summary of Clinical Progress:* a one-page form with provision for narrative comments by faculty regarding strengths and suggestions for improvement.

SOUTHERN OREGON STATE COLLEGE (1250 Siskiyou Boulevard, Ashland, Oregon 97520)

*Final Evaluation:* a three-page form for instructor narrative comments resulting from an assessment of a student's competency in the performance of nine terminal objectives. Included are 44 behaviors and nursing process components which describe the 9 terminal objectives.

VIRGINIA APPALACHIAN TRICOLLEGE NURSING PROGRAM (P.O. Box 828, Abingdon, Virginia 24210)

*Clinical Evaluation Summary:* a rating scale to assess the student's performance of objectives for each course organized into four categories, using O (Outstanding), S (Satisfactory), or U (Unsatisfactory) ratings, with provision for comments. (*NOTE:* The form varies for each course depending on its objectives to be measured clinically.)

## Baccalaureate Programs

BOSTON UNIVERSITY SCHOOL OF NURSING (635 Commonwealth Avenue, Boston, Massachusetts 02115)

*Clinical Evaluation NU 309:* a 7-page rating scale to assess the performance of 26 descriptive behaviors and nursing process components using the ratings 3 (Outstanding), 2 (Highly Satisfactory), 1 (Satisfactory), or 0 (Unsatisfactory), with provision for supporting comments by faculty and student.

Provides an equivalency scale for grade point, raw score, and letter grade and includes an area for two evaluations. First and second evaluation areas are provided: the first is graded to help the student see areas needing improvement; the second is used to determine the semester grade.

*Clinical Evaluation NU 310–410:* a 5-page rating scale to assess the performance of 41 behaviors and nursing process components using ratings of 3 (Outstanding), 2 (Highly Satisfactory), 1 (Satisfactory), or 0 (Unsatisfactory), with provision for supporting comments by faculty and student. Incorporates an equivalency scale for grade point, raw score, and letter grade. Includes an area for both student and teacher evaluation of the student's performance.

JACKSONVILLE STATE UNIVERSITY, LURLEEN B. WALLACE SCHOOL OF NURSING (Jacksonville, Alabama 36265)

*Clinical Evaluation Packet* (28 pages):

A. *Faculty Evaluation Packet* (17 pages) Includes a rating scale used to assess the student's performance of 60 descriptive behaviors for the objectives of every nursing course, using a numerical score range from 1 through 6 (with 1 representing the least ideal performance and 6 representing the most ideal performance), with provision for faculty and student comments. Includes guidelines for using the evaluation form; scoring, ranking, and rating the student's performance; computing means; interpreting graphic displays of evaluation data; computing the letter grade; and using the definitions of terms to interpret behaviors.

B. *Student Evaluation Packet* (11 pages)

This includes an evaluation tool identical to that used by the faculty and designed so that the student's own evaluation of her performance can be compared to the faculty member's evaluation of her performance of 60 descriptive behaviors for the objectives of every nursing course, using a numerical score range from 1 through 6 (with 1 representing the least ideal performance and 6 representing the most ideal performance), with provision for faculty and student comments. Also includes student guidelines for using the evaluation tool; an explanation of the rating process; instructions for self-ranking and rating; an explanation of how to perform mathematical computations and graph the results; and a list of the definitions of terms used to interpret behaviors.

## Diploma Programs

FRAMINGHAM UNION HOSPITAL (85 Lincoln Street, Framingham, Massachusetts 01701)

*Nursing 100—Final Clinical Evaluation:* a 3-page rating scale using letter grades A (100–90), B (89–83), C (82–75), and F (74) to assess the student's performance of 41 behaviors descriptive of 6 terminal objectives, with provision for faculty and student comments.

*Nursing 101—Clinical Evaluation:* a 3-page rating scale using letter grades A (100–90), B ( 89–83), C (82–75), and F (74) to assess the student's performance of 45 behaviors descriptive of 7 terminal objectives, with provision for faculty and student comments.

*Nursing 200 (Medical-Surgical)—Clinical Evaluation:* a 7-page rating scale using letter grades A (100–90), B (89–83), C (82–75), and F (74) to assess the student's performance of 74 behaviors descriptive of 6 major and 14 secondary objectives, with provision for faculty and student comments.

*Nursing 201 (Maternity)—Clinical Evaluation:* a 6-page rating scale using letter grades A (93), B (87), C (80), and F (74) for evaluating the student's performance of 78 behaviors for 8 maternity course objectives, with provision for faculty and student comments.

*Nursing 202 (Nursing of Children)—Clinical Evaluation:* a 4-page rating scale using letter grades A (93), B (87), C (80), and F (74) for evaluating the student's performance of 26 behaviors descriptive of 3 course objectives, with provision for faculty and student comments.

*Nursing 300 (Psychiatric Nursing)—Clinical Evaluation:* a 5-page rating scale using letter grades A (100–90), B (89–83), C (82–75), and F (74) for assessing the student's performance of 8 course objectives in terms of 61 descriptive behaviors, with provision for faculty and student comments.

*Nursing 301 (Neurology)—Student Evaluation of Clinical Performance:* a 2-page rating scale using letter grades A (100–90), B (89–83), C (82–75), and F (74) for assessing the student's performance of 11 objectives with provision for faculty and student comments.

*Nursing 302 (Critical Care Nursing)—Clinical Evaluation:* a 5-page rating scale using letter grades A (100–90), B (89–83), C (82–75), and F (74) for evaluating 7 nursing process components in terms of 35 descriptive behaviors with provision for faculty and student comments.

MACQUEEN GIBBS WILLIS SCHOOL, THE MEMORIAL HOSPITAL (South Washington Street, Easton, Maryland 21601)

*Clinical Evaluation Record—Medical-Surgical I:* a 2-page rating scale to assess the student's performance of 23 descriptive behaviors for 7 medical-surgical course objectives at the beginning level of student progress using ratings of 4 (Met objectives in a superior manner). 3 (Met objectives with minimal guidance), 2 (Met objectives with moderate guidance), 1 (Met objectives with intensive guidance), or 0 (Objectives not met), with provision for supporting comments by faculty and student.

*Clinical Evaluation Record—Medical-Surgical II:* a 2-page rating scale to assess the student's performance of 21 descriptive behaviors for 7 medical-surgical course objectives based on a more advanced level of student progress (than Medical-Surgical I), using ratings of 4 (Met objectives in a superior manner), 3 (Met objectives with minimal guidance), 2 (Met objectives with moderate guidance), 1 (Met objectives with intensive guidance), or 0 (Objectives not met), with provision for supporting comments by faculty and student.

*Advanced Medical-Surgical Nursing Clinical Evaluation Record:* a 2-page rating scale to assess the student's performance of 28 descriptive behaviors for 7 medical-surgical course objectives representing the most advanced level of student progress, using ratings of 4 (Met objectives in a superior manner), 3 (Met objectives with minimal guidance), 2 (Met objectives with moderate guidance), 1 (Met objectives with intensive guidance), or 0 (Objectives not met), with provision for supporting comments by faculty and student.

*Leadership in Nursing Clinical Evaluation Record:* a 2-page rating scale to assess the student's performance of 23 descriptive behaviors for 7 leadership course objectives using ratings of 4 (Met objectives in a superior manner), 3 (Met objectives with minimal guidance), 2 (Met objectives with moderate guidance), 1 (Met objectives with intensive guidance), or 0 (Objectives not met), with provision for supporting comments by faculty and student.

*Nursing of Children Clinical Evaluation Record:* a 3-page rating scale to assess the student's performance of 31 descriptive behaviors of 8 pediatric course objectives using ratings of 4 (Met objectives in a superior manner), 3 Met objectives with minimal guidance), 2 (Met objectives with moderate guidance), 1 (Met objectives with intensive guidance), or 0 (Objectives not met), with provision for supporting comments by faculty and student.

NEW ENGLAND BAPTIST HOSPITAL SCHOOL OF NURSING (91 Parker Hill Avenue, Boston, Massachusetts 02120)

*Basic Nursing Concepts* (Second semester, first-year freshman): a 13-page packet including a rating scale for 42 behavioral objectives for 5 performance-level objectives, using the categories of Very Satisfactory (3.0), Satisfactory (2.0), and Unsatisfactory (1.0), with a conversion scale for establishing a total point range for midterm and final grades. There is provision for both faculty evaluation and student self-evaluation and grading. Also includes a guide for using the evaluation form and determining a grade, a list of criteria within each performance-level objective that define the Very Satisfactory through Unsatisfactory categories, and an example of an anecdotal record.

*Care of the Adult Patient* (First semester, second-year junior): an 11-page packet including a rating scale for 23 behavioral objectives for 5 performance level-objectives, using the categories of Very Satisfactory (3.0), Satisfactory (2.0), and Unsatisfactory (1.0), with a conversion scale for establishing a total point range for midterm and final grades. There is provision for both faculty evaluation and student self-evaluation and grading. Also includes a guide for using the evaluation form and determining a grade, a list of the criteria within each performance-level objective that define the Very Satisfactory through Unsatisfactory categories, and a statement of anecdotal record usage.

*Care of the Acutely Ill Patient* (Second semester, second-year junior): a 10-page packet including a rating scale for 38 behavioral objectives for 5 performance-level objectives, using the categories of Very Satisfactory (3.0), Satisfactory (2.0), and Unsatisfactory (1.0), with a conversion scale for establishing a total point range for midterm and final grades. There is provision for both faculty evaluation and student self-evaluation and grading. Also includes a guide for using the evaluation form and determining a grade, a list of the criteria within each performance-level objective that define the Very Satisfactory through Unsatisfactory categories, and a statement of anecdotal record usage.

*Care of the Emotionally Ill Patient* (Second semester, second-year junior): an 8-page packet including a rating scale for 24 behavioral objectives for 5 performance-level objectives, using the categories of Very Satisfactory (3.0), Satisfactory (2.0), and Unsatisfactory (1.0), with a conversion scale for establishing a total point range for midterm and final grades. There is provision for both faculty evaluation and student self-evaluation and grading. Also includes a guide for using the evaluation form and determining a grade, a list of the criteria within each performance-level objective that define the Very Satisfactory through Unsatisfactory categories, and a statement of anecdotal record usage.

NEWTON-WELLESLEY HOSPITAL (2014 Washington Street, Newton Lower Falls, Massachusetts 02162)

*Nursing III Guide for Evaluation of Student Performance:* a five-page guide for the evaluation of student performance. Lists 15 course objectives in Nursing III in relation to the following: school objectives, level objectives, nursing process components, and expected descriptive behaviors.

*Nursing III Evaluation of Student Clinical Performance:* an 8-page rating scale using satisfactory, unsatisfactory or minimally satisfactory on probation ratings and narrative comments for 14 course objectives to cover the midterm and final evaluation periods. Also includes a 3-page, end-of-course summary sheet rating the 14 course objectives using the categories of Satisfactory, Unsatisfactory, or Minimum Satisfactory on Probation with provision for a narrative summary by the instructor and the student.

*Nursing VI Medical-Surgical-Psychiatric Nursing—Evaluation Form Guide Sheets:* a 14-page guide for the evaluation of student performance. Defines 9 course objectives and lists 165 descriptive behaviors considered in the student evaluation process.

*Nursing VI Medical-Surgical-Psychiatric Nursing—Evaluation of Clinical Performance:* an 11-page rating scale for 9 course objectives and 25 associated descriptive behaviors using Satisfactory or Unsatisfactory ratings with provision for comments. Also includes a summary sheet for rating the achievement of the course objectives as Satisfactory or Unsatisfactory and a narrative summary sheet for evaluating clinical performance.

ST. ANTHONY HOSPITAL (1000 North Lee, Oklahoma City, Oklahoma 73103)

*Evaluation of Students' Clinical Performance in Nursing Fundamentals II:* a 7-page rating scale to assess the student's performance of 63 descriptive behaviors for 9 clinical objectives using Outstanding, Satisfactory, or Unsatisfactory ratings, with provision for faculty and student comments.

ST. LUKE'S HOSPITAL SCHOOL OF NURSING (4426 Wornall Road, Kansas City, Missouri 64111)

*Mental Health Nursing—Junior Level (201):* a 4-page form to assess the student's performance of 37 behaviors descriptive of 6 nursing process components with an area designated for narrative comment/explanation by faculty for each of these behaviors, and additional areas for narrative comment on the student's written work, areas of strength, and areas needing improvement. There is also provision for student comments.

*Mental Health Nursing—Junior Level (202):* a 4-page form to assess greater proficiency and/or refinement of the student's performance of the 37 descriptive behaviors for 6 nursing process components listed for Mental Health Nursing—Junior Level (201), with an area designated for narrative comment/explanation by faculty for each of the behaviors, and additional areas for narrative comment on the student's written work, areas of strength, and areas needing improvement.

*Medical Nursing—Junior Level (201):* a 4-page form to assess the student's performance of 40 behaviors descriptive of 6 nursing process components with an area designated for narrative comment/explanation by faculty for each of the behaviors and additional areas for narrative comment on the student's written work, areas of strength, and areas needing improvement. There is also provision for student comments.

*Medical Nursing—Junior Level (202):* a 4-page form to assess the student's proficiency and/or refinement of the performance of 40 behaviors descriptive of 6 nursing process components included in Medical Nursing—Junior Level 202, with an area designated for narrative comment/explanation by faculty for each of the behaviors, and additional areas for narrative comment on the student's written work, areas of strength, and areas needing improvement. There is also provision for student comments.

*NOTE:* The 201, 202 listed courses are just two of the nine different areas encountered by each student during the junior year.

*Junior Year 201–202—Rotation Summary Sheet* (Rotation Areas—Operating Room, Medical-Surgical, Maternity, Nursing of Children, Mental Health, Orthopedics, Outpatient, and Cardiovascular-Pulmonary): a 19-page summary with space designated for midsemester and end-of-semester assessments of the junior-level student's performance of each of the 9 junior-level rotation areas, of broad, descriptive behaviors for nursing process components, using the categories of S (Satisfactory) or U (Unsatisfactory), with areas for narrative comment on the student's written work, areas of strength, and areas needing improvement.

*Medical-Surgical Rotation Objectives—Senior Level (301):* a 6-page form to assess the student's performance of 61 descriptive behaviors for 6 nursing process components with an area designated for narrative comment/explanation by faculty for each of the behaviors, and areas for narrative comment on the student's written work, areas of strength, and areas needing improvement. There is also provision for student comments.

*Medical-Surgical Nursing — Senior Level (302):* a 5-page form to assess the proficiency and/or refinement of the student's performance of 61 behaviors descriptive of the 6 nursing process components in Medical-Surgical Rotation Objectives—Senior Level 301 with an area designated for narrative comment/explanation by faculty for each of the behaviors, and areas for narrative comment on the student's written work, areas of strength, and areas needing improvement. There is also provision for student comments.

*Nursing Care Leadership — Senior Level (301):* a 6-page form to assess the student's performance of 75 descriptive behaviors for 6 nursing process components with an area designated for narrative comment/explanation by faculty for each of the behaviors, and additional areas for narrative comment on the student's written work, areas of strength, and areas needing improvement. There is also provision for student comments.

*Nursing Care Leadership — Senior Level (302):* a 5-page form to assess the proficiency and/or refinement of the student's performance of the 75 descriptive behaviors for the 6 nursing process components for Nursing Care Leadership 301, with an area designated for narrative comment/explanation by faculty for each of the behaviors, and additional areas for narrative comment on the student's written work, areas of strength, and areas needing improvement. There is also provision for student comments.

*Nursing of Children—Senior Level (301):* a 5-page form to assess the student's performance of 58 behaviors descriptive of 6 nursing process components with an area designated for narrative comment/explanation by faculty for each of the behaviors and additional areas for narrative comment on the student's written work, areas of strength, and areas needing improvement. There is also provision for student comments.

*Nursing of Children—Senior Level (302):* a 5-page form to assess the proficiency and/or refinement of the student's performance of 58 behaviors descriptive of 6 nursing process components for Nursing of Children 301, with an area designated for narrative comment/explanation by faculty for each of the behaviors and additional areas for narrative comment on the student's written work, areas of strength, and areas needing improvement. There is also provision for student comments.

*NOTE:* The 301, 302 courses listed are just three of the six different areas encountered by each student during the senior year.

*Senior Year 301–302—Rotation Summary* (Rotation Areas—Medical-Surgical I and II, I.C.U., Nursing Care Leadership I and II, Mental Health, Nursing of Children, and Maternity Nursing): a 19-page summary with space designated for midsemester and end-of-semester assessments of the senior-level student's performance of broad descriptive behaviors for the nursing process components of each of the 6 senior-level rotation areas, using the categories of S (Satisfactory) or U (Unsatisfactory), with areas for narrative comment on the student's written work, areas of strength, and areas needing improvement.

ST. MARY HOSPITAL (308 Willow Avenue, Hoboken, New Jersey 07030)

*Clinical Performance Evaluation Record (Freshmen—42nd Week):* a 10-page rating scale to assess the level of performance on 23 descriptive behaviors and nursing process components for 6 first-year objectives using satisfactory, unsatisfactory, or outstanding ratings, with provision for student and faculty comments. The behaviors are based on the student's need for varying degrees of guidance and supervision—direct, minimal, and none, with accompanying definitions of these terms. Included are guidelines for use of the clinical performance evaluation record.

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